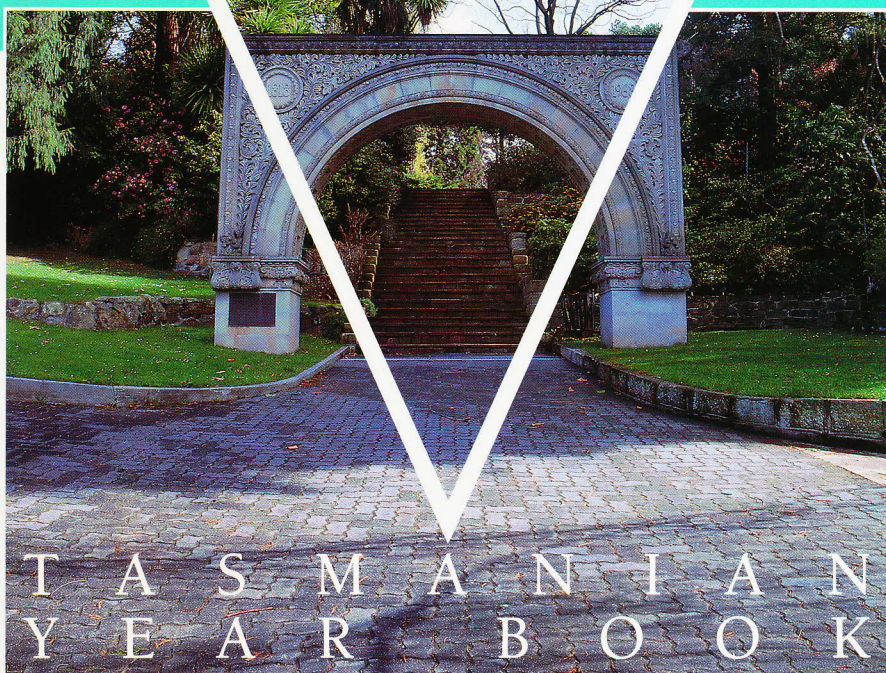


1992



T A S M A N I A N
Y E A R B O O K

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*Frontispiece: Stone arch, Royal Tasmanian Botanical Gardens, Hobart.
(photo: Martin Walch)*

TASMANIAN YEAR BOOK
1992

TASMANIAN OFFICE

**TASMANIAN
YEAR BOOK
No. 23: 1992**

JOHN POLLARD

ACTING DEPUTY COMMONWEALTH STATISTICIAN

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GENERAL INFORMATION

SYMBOLS

The following symbols, where used, mean:

ASIC	Australian Standard Industrial Classification
n.a.	not available
n.e.c.	not elsewhere classified
n.e.i.	not elsewhere included
n.p.	not available for separate publication but included in totals where applicable
n.y.a.	not yet available
p	preliminary - figure or series subject to revision
r	figure or series revised since previous issue
..	not applicable
-	nil or rounded to zero
—	break in continuity of the series (where drawn across a column between two consecutive figures)

Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

Where reference is made to Acts of the Commonwealth or State Parliaments, the year quoted refers to the year in which the principal Act was passed; all subsequent amendments are inferred.

VALUES AND MEASURES

Values are shown in Australian dollars (\$) or cents (c).

LOCAL NAMES OF CERTAIN REGIONS

Tasmanians describe certain regions in a manner confusing to strangers; nevertheless this book employs local usage in most contexts. The chief peculiarities are:

North-West Coast: The *north* coast from approximately Port Sorell, west to Cape Grim is called the *North-West Coast*.

North-East Coast: The *north* coast from approximately Low Head, east to Cape Portland is called the *North-East Coast*. With most of the north coast referred to as either 'north-west' or 'north-east' the term 'north' is rarely applied to this coastal region.

West Coast: The Tasmanian *West Coast* may also refer only to the mining settlements of Queenstown, Rosebery, etc. In other contexts, the user may be thinking of inland mountains and rainforests rather than of a coastline.

Midlands: The true *Midlands* are probably the Central Plateau but the Tasmanian term means the rural area east of the Plateau and lying along the axis of the Hobart-Launceston road (the *Midland Highway*).

PREFACE

The Tasmanian Year Book has been produced since 1967: annually until 1986; later becoming biennial. Since its inception the Year Book has been an invaluable source of reference information about the State of Tasmania, providing a permanent record of the economic and social developments of the time. Subjects covered by its chapters include Tasmania's physical environment, its history and structure of government as well as details of the wide range of economic and social statistics collected by this Department. It is designed to be readily understood by all those who wish to acquire a broad knowledge of the State as well as those who have a particular practical use for the statistics.

In order to assist this understanding, the contents of statistical tables are supplemented in most cases with accompanying text, and numerous graphs and diagrams. For the user who requires time series of statistics, a collection of summary tables is included at the back of the book. This edition of the Year Book (the twenty-third) includes a special article on lichens by Dr Gintaras Kantvilas from the Herbarium, Tasmanian Museum and Art Gallery. As far as possible, the latest available statistics and significant developments which occurred over the years 1990 and 1991 have been included in each chapter. More detailed, and in many cases more up-to-date, statistics of the various topics covered by this book may be obtained by reference to the list of related publications included at the end of each chapter. Copies of these publications are available for sale from the Tasmanian Office of the ABS, which is located at 175 Collins St, Hobart; or may be obtained by writing to the Deputy Commonwealth Statistician, GPO Box 66A, Hobart 7001. The Australian Bureau of Statistics also provides an Information Service, which can supply statistical information and advice about publications, classifications and definitions, and where necessary, alternative sources. Contact the Information Officers by telephoning (002) 205800. If your requirements go beyond the simple use of published statistics, then one of the Information Consultants may be able to help by designing a special table for you, and perhaps supplying the data by electronic means. A Statistical Consultant can design a sample survey for you; provide advice on questionnaire design, and analyse your survey results. They will provide expert advice and accurate information to meet your requirements. All publications of the ABS are held in the Office library which is open to the public for reference purposes. In addition, our recent Library Extension Program has ensured that a wide range of ABS publications is located at each State and Regional library within Tasmania.

The collection of official statistics in Tasmania has a long history. Before the appointment of the first Government Statistician in Tasmania in 1867, statistics had been published in the official 'Blue Books' compiled by the Colonial Secretary during the period 1822-1855, and in volumes entitled *Statistics of Tasmania* after self-government was granted.

By the *Commonwealth and State Statistical Agreement Act* 1924, the Tasmanian Parliament ratified an agreement for the establishment of an office in Tasmania of the Australian Bureau of Statistics to meet the statistical needs of the State Government. Provision was made for the Deputy Commonwealth Statistician, a Federal Government officer, to hold, at the discretion of the State Government, the title of (State) Government Statistician. The first officer appointed in this way was L.F. Giblin, D.S.O.M.C., who had previously been the State Government Statistician. (It was not until the late 1950s that similar arrangements were made in the other Australian States.)

John Pollard
Acting Deputy Commonwealth Statistician

Australian Bureau of Statistics
Tasmania, August 1992

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Chapter 1

HISTORY AND CHRONOLOGY

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Chapter 1

HISTORY AND CHRONOLOGY

The following information on the first humans to live in Tasmania, the Tasmanian Aborigines, is based on a Tasmanian Museum and Art Gallery publication, titled 'The Aboriginal People of Tasmania', by Julia Clark.

1.1 THE FIRST PEOPLE AND EARLY EXPLORATION

Aboriginal people have been in Australia for at least 50 000 years. They probably came from Java and perhaps China, crossing the sea to the Australian continent on some kind of watercraft. They then spread to the most fertile areas, arriving in Victoria at least 35 000 years ago.

The Tasmanian Aborigines arrived in Tasmania more than 35 000 years ago. They are the descendants of the first colonists of the Australian continent. By 12 000 years ago, they had become isolated from the rest of Australia by the rising sea flooding the Bass Plain. The creation of Bass Strait brought about the cultural and physical isolation of the Tasmanian Aborigines.

1.1.1 Physical Isolation

The Tasmanian Aborigines are the only people we know who remained totally isolated from other human populations for 12 000 years. As a result of this isolation, they developed certain physical characteristics which have been used to distinguish them from mainland Aborigines. These are small to medium height, woolly hair and certain features related to the size and shape



Truganini.

Photo: Tasphoto Services
It was believed at the time of Truganini's death in 1876 that she was the last tribally-born Tasmanian Aboriginal woman. It is now known that she was survived by several other tribally-born women.

of the skull, eye sockets, nasal opening and palate.

However, all these characteristics are also found in mainland Aboriginal people. We also know now that mainland people do not all look the same. People from the Central Desert are tall and slim. People from Victoria were shorter and very muscular. Different forms of the same general group are called 'regional variations' and are also found in European populations. For example, tall, thin, blond Scandinavians are very

different from short, stocky, dark Mediterranean people. Regional variation accounts for the differences between Tasmanian and mainland Aboriginal populations. From the greater number of similarities however, it is clear that both groups are very closely related and had the same ancestors.

1.1.2 Cultural Isolation

Tasmanian Aboriginal culture is different in some ways from mainland Aboriginal culture. Certain things and ideas, which must have been introduced or invented after the Bass Plain became Bass Strait, did not reach Tasmania.

- The dingo arrived in Australia within the last 5000 years, and never reached Tasmania.
- After about 5000 years ago, new stone tools entered the toolkit of all mainland groups. These were very small and finely made. They were not used in Tasmania.
- The technique of hafting stone tools, i.e. fitting axes, blades or scrapers with handles, although common on the mainland, was not used in Tasmania.
- Boomerangs and spear throwers must have been invented after Tasmania was cut off as they were not used in Tasmania. The oldest boomerangs known are 10 000 years old.

Tasmanian Aborigines did not suffer as a result of not having these things. They had all they needed to live well and happily.

1.1.3 The Earliest Sites

Archaeologists have found that people lived in Tasmania over 35 000 years ago. They may have been here even longer.

Past events leave remains such as bones and charcoal in layers. The deepest ones are the oldest and the ones at the top are the most recent. These remains can tell us what people were doing in the past. Radiocarbon dating can tell us when they did these things. In this way, archaeologists can build up a picture of the way of life of the Aboriginal people who used the site.

Cave Bay on Hunter Island was an inland hunting camp 23 000–21 000 years ago. It was abandoned during glaciation 14 000 years ago. Later, when the sea reached its present level 6000 years ago, it was re-occupied by people living off the resources of the sea. Then it was

abandoned again 4000 years ago. In its last phase, beginning 2500 years ago, it was again used as part of the coastal economy of Aboriginal people in the north-west. In the 1800s, Aboriginal people still visited Hunter Island in summer for wallaby hunting, shellfish gathering and muttonbirding.

Beginners Luck Cave in south-central Tasmania was used by Aboriginal people more than 20 000 years ago.

Just before the beginning of the last period of intense glaciation in Tasmania, Aboriginal people were occasional visitors to the Florentine Valley; they came to hunt kangaroos and other animals on the open grasslands which were then present. They camped in the cave and left thick, crude flake tools and the charred remains of their meals.

20 000–15 000 years ago the Ice Age was at its most severe. The people who lived at Kuti Kina then were the world's most southerly population. They hunted wallaby in the open tundra around the cave. Their tools, called 'scrapers', were similar to those used on the mainland at the same time. These kinds of tools were used in Tasmania until the 19th Century.

Darwin glass (which is especially good for making stone tools) and ochre were brought into the area from many kilometres away. So we know that many of the aspects of traditional Tasmanian Aboriginal culture are at least 35 000 years old. These include trade and travel up and down the west coast and inland to the east and the use of ochre.

15 000 years ago the climate became warmer and wetter. The rainforest spread into this area. Wallabies live in open country, so they were forced out. The people who hunted them also had to move on and Kuti Kina was abandoned.

Nicholas Marion du Fresne in 1772 was the first white man to see Tasmania's Aborigines. After a friendly meeting, a misunderstanding led to fighting, resulting in several men from both sides being wounded. The size of the population when Europeans arrived in Tasmania is thought to have been about 4000 to 5000. They were not a declining society, but still evolving.

The Aborigines had no system of recording their own history. Study of their culture was not undertaken until contact with Europeans had erased much of it.

1.1.4 Exploration

Not all early voyages were undertaken with the aim of exploration. A series of voyages to nearby islands resulted in the unintentional discovery of Australia by Europeans in the 17th Century.

1606 Captain William Jansz crossed Torres Strait unawares while exploring the islands of New Guinea in the *Duyfken* and coasted along the west of Cape York Peninsula.

1616 Dirk Hartog journeyed along the western shore of Australia after sailing too far east on the route from the Cape of Good Hope to Java.

1642 Abel Janszoon Tasman, commanding *Heemskirk* and *Zeehan*, sighted the west coast of Tasmania and named his discovery 'Van Diemen's Land'. Landings were made on the Forestier Peninsula and near Blackman Bay on the east coast.

1772 The landing of a party from the French Du Fresne expedition at Marion Bay resulted in an affray with the Aborigines.

1773 Tobias Furneaux, in the *Adventure*, became separated from James Cook in the *Resolution* and landed a party at Adventure Bay, Bruny Island.

1777 James Cook anchored the *Resolution* in Adventure Bay on his third southern expedition.

1789 John Henry Cox, on a sealing expedition from England, sailed the *Mercury* from Cox Bight to Maria Island.

1792 William Bligh, on a second voyage to the Pacific to secure breadfruit, charted the south-east coast.

1793 D'Entrecasteaux returned for further exploration of the south-east coast. John Hayes, commanding the Duke of Clarence expedition, explored the Derwent River.

1798 Matthew Flinders and George Bass circumnavigated Tasmania.

1802 Nicholas Baudin, commanding the *Geographe* and *Naturaliste*, explored the south-east coast.

1.2 SETTLEMENT

There were several reasons for the establishment of a settlement in Van Diemen's Land.

The need for new territories to accommodate an increasing number of transported prisoners in the early stage of Australia's settlement was perhaps the main reason. Van Diemen's Land was so remote and insular it was considered an ideal location for a penal settlement; there were few means of escape for the convicts.

1803 Lieutenant John Bowen, accompanied by eight soldiers, 29 convicts and 10 free settlers, selected Risdon Cove as Tasmania's first settlement which he named Hobart.

1804 Lieutenant-Governor Collins, unhappy with the Risdon site, moved the settlement to Sullivan's Cove. Lieutenant-Colonel William Paterson's settlement party landed at Port Dalrymple (Tamar Estuary).

1806 The Tamar settlement was moved from York Town to the Launceston area.

1807 Thomas Laycock's party crossed the island overland from Port Dalrymple to Hobart.

1812 Lieutenant-Governor Thomas Davey arrived. The northern settlements at Port Dalrymple were made subordinate to Hobart. The *Indefatigable* brought the first shipload of convicts direct from England.

1815 Hobart and Port Dalrymple were declared free ports for the importing of goods. Davey proclaimed martial law against bushrangers. James Kelly circumnavigated the island in a whaleboat.

1816 Hobart Town Gazette was first issued.

1817 William Sorell assumed office as Lieutenant-Governor.

1820 John Thomas Bigge conducted an inquiry into colonial administration.

1822 A penal settlement was established at Macquarie Harbour.

- 1823** A British Act for the better administration of justice in NSW and Van Diemen's Land was passed.
- 1824** The Supreme Court was inaugurated. Lieutenant-Governor George Arthur arrived.
- 1825** The first Launceston newspaper, the *Tasmania and Port Dalrymple Advertiser*, was published. Tasmania was constituted a colony independent of NSW. An Executive and Legislative Council was established. Martial law was proclaimed against Aborigines.
- 1829** A settlement was established at Emu Bay (Burnie).
- 1830** George Augustus Robinson began his mission to conciliate the Aborigines. Juries were used for the first time in civil cases. Publication of *Quintus Servinton*, the first novel to be published in Australia. Port Arthur was established as a penal settlement.
- 1833** Macquarie Harbour penal settlement was closed due to its inaccessibility and harsh natural environment. Convicts were transferred to Port Arthur.
- 1834** The Henty brothers from Launceston became the first white settlers in Victoria, occupying land in the Portland Bay area.
- 1835** John Batman sailed from Launceston to Port Phillip as an agent for the Port Phillip Association. Tasmania was divided into counties and parishes. Tasmania's population was estimated as 40 172 persons.
- 1836** The Ross Bridge was opened.
- 1837** Sir John Franklin assumed office as Lieutenant-Governor.

1.3 SELF-GOVERNMENT

When first settled, north and south Van Diemen's Land were administered as two distinct districts, Launceston in the north and Hobart Town in the south. The districts were combined after 1812 and Hobart Town became the colony's centre. Van Diemen's Land was considered as an outlying district of NSW until 1825, with a Lieutenant-Governor responsible to a Governor in Sydney. When the island became a separate colony, the second in Australia, a Lieutenant-Governor was appointed who was responsible to the Colonial Office in London.

The 'Black Line'

After the 'Black War', in which approximately three quarters of the Aboriginal population was killed, Governor Arthur organised his 'Black Line'. Recognising the threat to the Aboriginal race if clashes with settlers continued he planned to segregate the two by driving all of the Aborigines from the settled areas into Forestier Peninsula. The 'Black Line' consisted of the military and hundreds of volunteers who formed a line from St Patrick's Head on the East Coast to the Western Tiers and the Derwent Valley. They advanced slowly, hoping to push the Aborigines forward, towards East Bay Neck. The manoeuvre, which cost £50 000 and took several days to complete, captured one black man and a boy and did not re-locate the Aborigines onto the peninsula.

- 1831** The British Government's new land regulations, discontinuing free grants of land and replacing them with land sales, were approved.
- 1832** The first shipment of Aborigines to Flinders Island occurred. A Caveat Board was established to settle land disputes and to confirm titles. Maria Island was closed as a penal settlement.
- 1838** Sessions of the Legislative Council were opened to the public.
- 1840** Convict transportation to NSW ceased; the numbers transported to Tasmania consequently increased. The population was estimated as 45 999 persons.
- 1841** A Probation System of convict discipline replaced the Assignment System. The Rossbank Observatory for magnetic and meteorological observations was established in Hobart.
- 1842** Tasmania was created a separate Anglican diocese. Hobart was made a city. Peak year for convict arrivals (5329).

1843 Sir John Franklin was recalled as Governor. He was succeeded by Sir John Eardley-Wilmot.

1844 Norfolk Island penal settlement was transferred from NSW to Tasmanian control.

1845 Six members of the Legislative Council (the 'Patriotic Six') resigned when the Governor used what they considered unconstitutional means to impose increased duties on various goods.

1846 Eardley-Wilmot was recalled. Launceston Church Grammar and The Hutchins Schools were founded.

1847 Sir William Denison, the new Lieutenant-Governor, re-appointed the 'Patriotic Six'.

1848 Tasmania was now the only place of transportation in the British Empire.

1850 The Anti-Transportation League was established. The population was estimated to be 68 870 persons.

1851 Limited representative government; first elections for 16 non-appointed members of the Legislative Council were held.

1852 Payable gold was first found near Fingal. Elections were held for the first municipal councils in Hobart and Launceston.

1853 The last convicts to be transported arrived. Van Diemen's Land's first postage stamp (Penny Blue) was issued and used until replaced by an Australian Commonwealth design in 1913.

1854 Bad floods disrupted the Colony. A Bill establishing responsible government was passed.

1855 Sir Henry Fox Young succeeded Denison and was accorded the title of Governor. The Constitution Act, enabling responsible government, was passed.

1856 Van Diemen's Land was renamed Tasmania. The advent of responsible self-government was followed by the opening of a new bi-cameral Parliament with W.T.N. Champ leading the first government in the House of Assembly.

W.T.N. Champ

When William Thomas Napier Champ's Government was sworn in on 1 November 1856, Champ was in his 49th year. He held the office of the first Premier of Tasmania for approximately four months. Prior to becoming Premier he held the high office of Colonial Secretary, had been Controller-General of Prisons and Commandant of the Port Arthur penal settlement. He was an army officer who came to Tasmania with a detachment of the 31st Regiment and was stationed at the notorious Sarah Island, Macquarie Harbour. He took part in Governor Arthur's 'Black War' and was a strong supporter of transportation.

No sooner had Champ succeeded in forming the first Ministry under responsible government when fierce political feuds threatened to end the Government's term. Champ resigned after a vital amendment to his finance bill was carried. Governor Young, in the absence of an organised party system, commissioned the mover of the amendment, Thomas George Gregson, to form a government.

1858 A Council of Education was set up and the *Rural Municipalities Act* passed.

1859 Charles Gould was appointed to undertake a geological survey of western Tasmania. A telegraph link was established with Victoria.

1860 The population was estimated as 89 821 persons.

1861 Colonel Thomas Gore Brown was appointed Governor. The telegraph cable to Victoria failed.

1862 A scheme for a railway between Launceston and Deloraine was promoted.

1864 The first successfully transported salmon and trout ova were hatched.

1868 Primary education was made compulsory.

1869 William Lanney, the last tribally-born Tasmanian Aboriginal man, died. Sir Richard Dry, the first Tasmanian-born Premier, died. A new telegraph cable was laid to Victoria.

- 1870** The remaining Imperial troops were withdrawn. Population was 99 328 (Census).
- 1871** The Launceston-Deloraine railway was opened. Tin was discovered at Mt Bischoff.
- 1872** A contract was let for building the Tasmanian Main Line Railway.
- 1873** The Tasmanian Main Line Railway Co. commenced construction, marking the start of an economic recovery.
- 1874** There were riots in Launceston in protest at rates levied for the Launceston-Deloraine railway.
- 1876** Race meetings commenced at Elwick.
A gold nugget worth \$12 200 was found at Nine Mile Spring. Truganini, believed at the time to be the last tribally-born Tasmanian Aboriginal woman, died. The Main Line Railway opened for traffic.
- 1877** Port Arthur was closed as a penal settlement.
- 1878** Mineral exploration of the West Coast was increased.
- 1879** A rich lode of tin was discovered at Mt Heemskirk.
- 1880** The first telephone was installed in Tasmania with a line from Hobart to the Mount Nelson Signal Station.
- 1881** Population 115 705 (Census).
- 1883** Discovery of the 'Iron Blow' at Mt Lyell.
- 1885** A Russian war scare was followed by activity in improvement of defences. The Mt Lyell Prospecting Association was formed.
- 1890** The University of Tasmania was established.
- 1891** The Van Diemen's Land Bank collapsed; a deep depression ensued.
- 1892** The Mt Lyell Mining Co. was established.
- 1896** Tattersalls Lottery was established by George Adams.
- 1897** Bushfires ravaged Tasmania.
- 1898** Tasmanians voted four to one in favour of Federation at a poll.
- 1899** The Southern Cross (Borchgrevinck) expedition departed Hobart for the Antarctic.
- 1900** The Tasmanian contingent to fight in the Boer War departed.

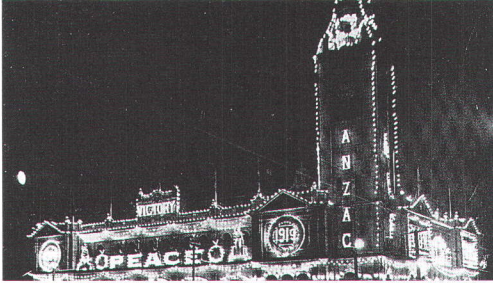
1.4 FEDERATION

Australia has been a federation of six States since 1 January 1901. In 1911 the Australian Capital Territory and the Northern Territory were transferred to the Commonwealth from New South Wales and South Australia.

- 1901** The Commonwealth was proclaimed; polling was held for the first elections to the Federal Senate and House of Representatives. Population 172 475 (Census).
- 1903** Suffrage (voting rights) was extended to women.
- 1905** Experiments in wireless telegraphy between Tasmania and the mainland were undertaken.
- 1907** A new Public Library opened in Hobart, built with a gift from Andrew Carnegie.
- 1909** Irish blight wiped out the State's potato crop. The State's first Labor Government under John Earle was elected.
- 1912** A fire at the North Lyell Mine, Queenstown, trapped miners underground, 42 died.
- 1914** The first aeroplane flight in Tasmania occurred. Tasmania's first contingent to fight in the Great War departed. The Hydro-Electric Department was formed; the Government purchased a private hydro-electric power scheme and commenced a policy of encouraging high-energy-using companies to set up in Tasmania.

1.5 1915 TO 1927

- 1915** Serious bushfires occurred.
- 1917** The Electrolytic Zinc works at Risdon and the Snug carbide works were established.
- 1918** The Great War ended.



Hobart GPO, 1919.

Photo: Archives Office of Tasmania

- 1919** Frozen meat was exported for the first time.
- 1920** Edward, Prince of Wales, visited. Cadbury's purchased a site at Claremont for a chocolate factory.
- 1921** Population 213 780 (Census).
- 1922** The Waddamana power station was completed.
- 1924** Superphosphate was first manufactured in Tasmania by the Electrolytic Zinc Co. at Risdon.
- 1925** Osmiridium fields were discovered at Adamsfield.
- 1927** An inquiry into a proposed bridge over the Derwent at Hobart was held. The Duke and Duchess of York visited Tasmania.

1.6 THE DEPRESSION YEARS

- 1929** Automatic telephone facilities were introduced to Hobart. Economic depression and serious floods affected Tasmania.

1930 Export prices fell to half the 1928 levels. The Australian pound was devalued so that £1 sterling equalled £1/5s.

1931 The Depression continued - the federal basic wage was cut by 10 per cent. An austere Premier's Plan included a conversion loan to reduce the rate of interest on internal federal debt by 22 ½ per cent. Senior Ministers, including J.A. Lyons, from Tasmania resigned from the Scullin Government. Following the carrying of a vote of no-confidence in the Government, elections were held at which the Scullin Labor Government was swept from office. Lyons led the opposition United Australia Party to victory.

1932 Joseph Lyons was sworn in as Prime Minister.

1933 A Commonwealth Grants Commission was appointed to inquire into the affairs of claimant States.

1934 Thirty-five years of continuous Labor Government in Tasmania began with the election of the A.G. Ogilvie Ministry. The second phase of hydro-electric development commenced at Tarraleah and Butlers Gorge.

1936 Tasmania was linked with Victoria by a new sub-marine cable.

1937 An epidemic of poliomyelitis occurred. Economic recovery resulted in five shillings 'prosperity loading' being added to the federal basic wage.

1938 A paper mill using native hardwoods was established at Burnie. The first turbines began operating at the Tarraleah power station.

1939 World War II began. Prime Minister Lyons died in office.

1940 Tasmanians sailed for the Middle East with the Australian 6th, 7th, and 9th Divisions.

1941 Newsprint production began at Boyer on the Derwent. Tasmanians sailed for Malaya with the Australian 8th Division.

1942 Uniform federal income tax commenced.

- 1943** The floating-arch Hobart Bridge opened for traffic.
- 1944** Pay-as-you-earn (PAYE) income taxation was introduced from 1 July.
- 1945** World War II ended.

1.7 POST WORLD WAR II

- 1946** The Legislative Council rejected a bill to grant Federal Government price control powers for three years.
- 1947** 'Displaced persons' began arriving from Europe. Population 257 078 (Census).



*Polish migrants at a dance, Hobart Town Hall.
Photo: Walenty Ejlak*

1948 A forty-hour week was awarded to most workers from 1 January. The High Court rejected as unconstitutional the *Commonwealth Bank Nationalisation Act, 1947*. Tasmanians voted 'No' almost two to one in a referendum denying Federal Government power over prices and rents. The Legislative Council's denial of Supply forced the dissolution of the House of Assembly; the Cosgrove Ministry was returned to power.

1949 Compulsory chest x-rays were introduced in the fight against tuberculosis. The Theatre Royal was purchased by the Government.

1950 Federal petrol rationing ended. Dissolution of the House of Assembly was granted by the Governor and the Cosgrove Ministry was returned to power.

1951 In a referendum to give Federal Government powers in regard to

communism, the 'No' vote prevailed, although Tasmanians expressed a slight preference for 'Yes'.

1952 A single licensing authority was established for hotels, clubs etc. The State's free hospital scheme ceased.

1953 The Arbitration Court abandoned the system of quarterly adjustment of the federal basic wage. State wages boards suspended quarterly basic wage adjustments.

1954 A bill was passed to resolve deadlocks in the House of Assembly. The Metropolitan Transport Trust was formed.

1955 The Bell Bay aluminium plant and the Trevallyn and Tungatinah power schemes were opened.

1956 The State wages board restored the 'cost-of-living' adjustments effective from 1 February but later suspended them. The EZ Company's sulphate of ammonia plant was opened. The Centenary of self-government was celebrated.

1957 The Legislative Council rejected a bill giving aid to private schools.

1958 The Rivers and Water Supply Commission was established, together with the Public Service Tribunal as an industrial authority.

1959 The first election to fill 35 seats in the enlarged House of Assembly resulted in Labor being re-elected. The *Princess of Tasmania* commenced a roll-on roll-off ferry service from Melbourne to Devonport.

1.8 1960 TO 1989

1960 Liapootah power station was commissioned. The Zeehan-Strahan railway closed. The Inland Fisheries Commission was created. The first Tasmanian telecasts began.

1961 The *William Holyman*, a cargo container vessel, entered Bass Strait trade. The Legislative Council rejected equal pay legislation.

1962 The Catagunya power scheme turbines began producing electricity. State Wages Boards granted three weeks annual leave. State subsidies were announced for municipal fluoridation schemes.

1963 The Federal Court increased margins by 10 per cent and granted three weeks annual leave. The Universities Commission recommended a medical school for the Tasmanian University. The Mt Lyell railway, from Queenstown to Strahan, closed.

1964 The Tasman Bridge opened for traffic. Hobart's water supply was fluoridated. Glenorchy was raised to city status.



*Tasman Bridge opening, 1964.
Photo: Tasphoto Services*

1965 Provisional driving licences were introduced. A Dental Nurse scheme for schools was implemented.

1966 Decimal currency was introduced on 14 February. The Burnie-Launceston co-axial cable was completed. Equal pay for certain State Public Service females was granted. Breathalyser tests were approved for use by police. Subscriber-trunk-dialling was introduced.

1967 The bush fire disaster of 7 February resulted in 62 deaths and over 1000 houses were destroyed. The Federal Arbitration Commission abolished the basic wage and substituted a total wage concept but the basic wage was retained in State awards. The Mt Cleveland tin mining town of Luina was completed.

1968 The Batman Bridge across the lower Tamar was opened. The Federal Government granted a subsidy for apples and pears exported to the UK and other countries. Full adult suffrage for Legislative Council elections from 1 July 1969 was introduced. Capital punishment was abolished.

1969 A State election resulted in the election of 17 ALP, 17 Liberals and one Centre Party member (Mr Kevin Lyons). Mr Lyons combined with the Liberals to form a coalition government, ending a 35-year Labor rule in Tasmania. The Full Bench of the Federal Arbitration Commission granted equal pay to females performing equal work. The copper smelter at Mt Lyell was closed; concentrate was sent to Japan and Port Pirie (SA) for treatment.

1970 The first pyrites from Rosebery were railed to the Burnie sulphuric acid plant. The EZ Co. commenced a \$6.3 million residue treatment plant. Parliament legislated to introduce permanent daylight saving.

1971 APPM Ltd's Wesley Vale paper plant was opened. The Population Census count was 390 413 persons.

1972 K.O. Lyons resigned cabinet portfolios and ended the Liberal-Centre Party Coalition. The ANL vessel *Princess of Tasmania* made her final trip to Tasmania.

1973 The Bell Bay rail link; the first legal casino in Australia, Wrest Point; and the \$121 million Mersey-Forth HEC scheme were officially opened. Storeys Creek tin mine closed down. The *Blythe Star* was lost at sea. Tasmania voted in line with other Australian States on prices and incomes referenda; 'No' to both.

1974 Workers under State Wages Boards' awards were granted four weeks annual leave; women were awarded equal pay. The Gordon Dam was completed. A no-fault third party insurance scheme was implemented.

1975 Tasmanian suburban rail services ceased. The bulk ore carrier *Lake Illawarra* rammed the Tasman Bridge resulting in a 128-metre gap and 12 deaths. The TAB began operating. Transmission of colour television programs commenced in Tasmania. Hotels were allowed to open for Sunday trading.

1976 Sea cargo to and from Tasmania was subsidised by a freight-equalisation scheme.

1977 The Federal Government confirmed Kingston as the site for Australia's new Antarctic Division Headquarters. The Tasman Bridge was re-opened.

1978 The Tasmanian railways came under full control of the Australian National Railways Commission. All regular passenger train services in Tasmania ceased.

1979 The State Government expanded the South-West Conservation area to more than 20 per cent of the State's total area. The State's first Ombudsman was appointed. Tasmania's Parliamentary Hansard was introduced. A claim that a new Labor MHA in Franklin, Michael Aird, had breached the Electoral Act by spending more than the statutory limit of \$1500 on his election expenses began the so-called 'Electoral' or 'Constitutional Crisis'. The HEC released a report which recommended a \$1.36 billion power development scheme involving the Lower Gordon, Franklin and King Rivers.

1980 Public pressure resulted in the State Government deciding to save the Franklin River by opting to flood the Gordon at its junction with the Olga, the Gordon-above-Olga power scheme, and to construct four separate schemes on the King River. The Upper House Select Committee recommended the HEC's proposed Gordon-below-Franklin scheme and rejected the Government proposed Gordon-above-Olga scheme legislation.

1981 The State Government placed a statewide ban on Saturday afternoon trading by companies employing more than 100 people. A referendum concerning the State's next power development resulted in a large informal vote but most supported the Gordon-below-Franklin option.

1982 The Southwest National Park, the Franklin-Lower Gordon Wild Rivers National Park and the Cradle Mt-Lake St Clair National Park were nominated by the Federal Government for the World Heritage List; both proposed dam sites lay within the nominated area. The World Heritage Commission placed the areas on its list despite State Government opposition. The Liberal Party formed a Government in its own right for the first time in Tasmania's history. Legislation for the \$453 million Gordon-below-Franklin power scheme passed through Parliament. The Federal Labor Party announced a no-dams policy for a Federal Labor Government.



*Cradle Mountain—Lake St Clair National Park.
Photo: Department of Parks, Wildlife and Heritage*

1983 The Labor Party led by Mr Hawke won the Federal election. Regulations under section 69 of the *National Parks and Wildlife Act 1975*, gazetted by the Federal Government, made any further work on the Gordon-below-Franklin dam illegal. A Commonwealth writ, seeking an injunction to permanently stop work on the proposed Gordon-below-Franklin dam, and a Tasmanian writ seeking a declaration from the High Court that regulations under which the Commonwealth was acting were constitutionally invalid, were filed in the High Court. The High Court ruled that the Gordon-below-Franklin dam could not go ahead. The lowest temperature yet recorded in Tasmania, -13°C , was registered.

1984 The \$48.5 million Bowen Bridge, and the Wrest Point Convention Centre were opened. Fire caused approximately \$1 million damage to Hobart's historic Theatre Royal. Mr Hawke and Mr Gray signed an agreement for \$270 million compensation to Tasmania for the loss of the Gordon-below-Franklin power scheme.

1985 The State Government revealed details of a \$22 million West Coast road link between Smithton and Zeehan. The municipalities of St Leonards and Lilydale amalgamated with the City of Launceston. The 10 per cent Commonwealth air fare subsidy for travel between Tasmania and Melbourne was abolished. The Bass Strait ferry *Empress of Australia* made its final voyage from Devonport, it was replaced by the *Abel Tasman*. The State Government declared that 24 November would be known as Tasmania Day.

1986 Archaeologists discovered Tasmanian Aboriginal rock paintings in the Southwest, believed to be about 20 000 years old. The Liberal Government was re-elected with

a majority of three seats, a record 15 MHAs lost their seats. The State Government abandoned its controversial fast-track development legislation which deprived Tasmanians of the right of appeal against major planning projects. The 1986 Census counted 436 353 people in Tasmania on census night, an increase of 4.2 per cent on the 1981 count. The municipalities of Gormanston and Queenstown amalgamated to create the new municipality of Lyell.

1987 A High Court decision banned logging in the Lemonthyme and Southern Forests of Tasmania. Aboriginal hand stencils dating back to the last Ice Age were discovered in a cave in the Cracroft Valley in Southern Tasmania. The Hobart Sheraton Hotel was officially opened by the Premier. Tasmania's Bicentenary Tall Ship the *Lady Nelson* was launched. The Australian Conservation Foundation prepared to take the Federal Government's Helsham logging inquiry in Tasmania to court to overturn the decision by the Helsham Commission of Inquiry to free four forest areas in the Lemonthyme Southern forests from High Court protection. Australia's Antarctic supply ship *Nella Dan* sank off Macquarie Island.

1988 The crews of approximately 200 sailing, cruise and naval ships from approximately 20 countries visited Hobart as part of the bicentennial celebrations. The State Government lost its High Court challenge to the validity of the Federal Government's legislation preventing logging in the Lemonthyme and Southern forests. The ruling means that the Federal Government can stop logging in an area by nominating it for World Heritage listing. Northern Tasmania's television station, TNT9 was sold for \$40 million to Victorian TV and radio operator Tricom Corporation Ltd. Burnie became Tasmania's fifth city. The Helsham Inquiry found that five areas of the Lemonthyme and Southern forests qualified for World Heritage listing. These accounted for only eight per cent of the 284 000 hectares reviewed by the Commission. The Tasmanian Sporting Hall of Fame was opened. Federal Cabinet announced that it would not insist on World Heritage listing if Tasmania agreed to protect 80 per cent of the Helsham Inquiry area, the Lemonthyme and Southern forests, and areas outside the inquiry area will also be barred from logging. A compensation payment of \$40 million was offered. The Tasmanian Government accepted

the decision. Clarence became Tasmania's sixth city. In an agreement signed between the Commonwealth and Tasmanian Governments, 80 per cent or 260 000 hectares of the Lemonthyme and Southern forests as well as the Walls of Jerusalem National Park and the Central Plateau Conservation Area were to be jointly nominated for World Heritage listing, taking Tasmania's total World Heritage area to 1 029 355 hectares, or 15.2 per cent of the State. An outbreak of Legionnaires Disease in Burnie resulted in three deaths and 26 confirmed cases of the disease. North Broken Hill and Noranda Forests terminated negotiations with the Federal Government concerning the Wesley Vale Pulp Mill and announced that the mill would not go ahead. A State election was held, nine months before the four-year term was due to complete its course. The Liberal Party won 17 seats, Labor 13 and the Independents 5. After negotiations with the two major parties the Independents signed an accord with the Labor members to form government. Mr Gray requested that the Liberal minority government be sworn in by the Governor. Labor and Independent members of the House of Assembly stated that they would combine to pass a motion of no-confidence in the Gray government at the first sitting of Parliament. A Melbourne man was charged with offering a \$110 000 bribe to newly elected Bass Labor MHA Mr Jim Cox to vote in support of the Gray Government when parliament resumed on 28 June. Prominent Launceston businessman, Edmund Rouse, was also arrested. The Gray Liberal Government faced a vote of no-confidence by the Independent and Labor MHAs in parliament. Debate on the motion lasted throughout the night ending with Mr Gray's government being defeated. Mr Michael Field was sworn in as Tasmania's new premier after the resignation of Mr Gray. An industrial dispute involving domestic airline pilots seriously affected Tasmania. Amalgamation of Tasmania's three tertiary education institutions involving 7500 students and 640 academic staff began. The State Government released a list of 25 schools selected for closure. Plans to open Australia's only sub-Antarctic island (Macquarie Island) to tourism were approved. Government House was opened to the public for the first time. All but



Edmund Rouse
Photo: The Mercury

five of the 19 schools on the State Government's list were saved from closure in an historic deal struck between the Independents and the Legislative Council. The Douglas-Apsley area was declared a national park.

1.9 THE NINETEEN-NINETIES

1990

January

The Waverley Woollen Mills in Launceston and Oystas, one of Tasmania's largest oyster processing companies, were placed in receivership.

Former Liberal Attorney-General, John Bennett resigned from parliament stating poor pay as the reason.

February

Firetap won the Hobart Cup.

Major Chris Gibson, a retired army major, was elected as the Liberal Party's new member for Denison in the House of Assembly after the resignation of John Bennett.

Petrol station rostering ceased.

Par Avion suspended trading and sent most of its 64 employees on forced leave following the company's collapse.

March

A highly organised deer-poaching racket was broken in a crackdown by authorities. The racket involved sophisticated communication links, secret compartments in vehicles, the clandestine use of woodchip ships to export the venison and a rising tide of violence.

Eighty workers at Zeehan's Renison tin mine were retrenched following a downturn in the industry as a result of a massive drop in the international price of tin.

The troubled Bendigo Pottery company, including its Deloraine factory, was sold to a Victorian company for \$2.6 million.

Devonport's Serendipity Fun Park closed with debts totalling \$1.4 million.

A Federal election was held. Elected to the House of Representatives for the Liberal Party were Chris Miles (Braddon) Warwick Smith,

(Bass), Bruce Goodluck (Franklin) and Max Burr (Lyons) and Labor candidate, Duncan Kerr (Denison). Elected senators were Jocelyn Newman, John Watson and Paul Calvert for the Liberal Party, Labor candidates, Nick Sherry and John Devereux and Democrat, Robert Bell.

Obituary

One of Tasmania's leading parliamentarians and barristers, Sir Reginald Wright died aged 84. Sir Reginald was a Liberal senator from 1949 to 1978 and the inaugural State president of the Liberal Party. He entered politics in 1946 as a Member for Franklin in the House of Assembly before successfully contesting a Senate seat in 1949, a position he held until his protest resignation over the MPs' pension system in 1978 at the age of 73. Educated at Devonport State High School and the University of Tasmania he was admitted to the Bar in 1928 and lectured in law at the University of Tasmania for 15 years. He served with the rank of captain in the field artillery from 1941 to 1944.

More than 20 kilometres of the Pieman River was poisoned by a mystery chemical. The river bank was littered with hundreds of dead fish and the water contained acrid toffee-coloured foam. General maintenance on an HEC dam was to blame for the catastrophe when a large quantity of oxygen-depleted water was released from the Reece Dam.

East Coast fish meal company Industrial Fish Tasmania Pty Ltd ceased operation when the Tasmania Bank and The Tasmanian Development Authority foreclosed on loans of more than \$5 million owed by the company.

April

Launceston Marine Industries won a \$260 million contract for the joint construction of a number of patrol boats for the Phillipines navy.

The general manager of the State Government-run TT-Line, Mr Geoffrey Ede, was suspended from duties, pending an inquiry.

Winding down of the Mt Lyell copper mine at Queenstown began when 80 jobs were lost.

Dr Bob Brown won the Goldman Environmental Prize, an international environmental award.

APPM's Wesley Vale mill announced a voluntary retrenchment program to shed 70 jobs.

Launceston clothing manufacturer Southern Garment Co. Pty Ltd closed. A local and national economic downturn and the withdrawal of federal protection for the industry were blamed for the closure.

May

Launceston businessman Edmund Rouse pleaded guilty to attempting to bribe Tasmanian Labor MHA Mr Jim Cox. He was fined \$4000 and sentenced to three years jail.

Mr Harry Braid, a former President of the Legislative Council and the Member for Mersey for 18 years, retired from State Parliament.

Writs arising from the long-running peat moss affair and claiming \$2.84 million from the State Government and the Tasmanian Development Authority were lodged in the Hobart Supreme Court.

Tasmania's Director of Public Prosecutions lodged an appeal against the three year jail sentence imposed on Edmund Rouse on the grounds that it was 'manifestly inadequate'.

The Guthrie Group, parent of Devonport carpet manufacturer Tascot Templeton, took over the Devonport operations of Bonds Weaving Mills.

Mr Bill Zeeman, a Launceston lawyer, was appointed a judge of the Supreme Court to replace Mr Justice Robert Nettlefold who retired.

Legislative Council elections for the divisions of Cornwell, Huon and Mersey were held. Ray Bailey, Athol Meyer and Geoff Squibb won the respective seats.



Hon. Justice Zeeman.
Photo: The Examiner

June

The troubled Waverley Woollen Mills was purchased by a mystery buyer on the day 30 of its employees received their severance pay.

Former TT-Line general manager Geoffrey Ede resigned following a 10 week suspension.

The Minister for Education and the Arts, Peter Patmore, announced an independent review of Tasmania's education system and arts services, which could cost up to \$570 000.

Bob Clifford's Tasmanian-built catamaran, Hoverspeed Great Britain, set a new record for crossing the Atlantic Ocean.

Tasmania beat Victoria in the State of Origin game by 33 points.

Mr Geoffrey Ede, former TT-Line general manager, was the subject of a ministerial statement presented to parliament by the Premier. Mr Ede resigned rather than face charges of alleged misconduct involving the spending of taxpayers' money.

Senator Ray Devlin retired from politics after six years in the Senate.

A \$40 million grant was given to the State Government by the Federal Government to help fund a redundancy program for up to 2000 public servants.

Tioxide Australia announced plans to cut its Burnie workforce by 106 by the end of August. The retrenchment was a cost-cutting measure to survive falling sales.

Concern was raised over high levels of heavy metals which were detected in soil samples taken at Lutana.

International credit rating agency Moody's gave Tasmania the lowest credit rating of all States.

Obituary

Former Labor parliamentarian and long-serving Attorney-General and Deputy Premier of Tasmania Mr Roy Fagan died after a long illness.

Roy Fagan was born at Waratah in 1905. He was an organiser with the AWW during the Great Depression and later became a barrister after graduating with Bachelor of Law qualifications at the University of Tasmania.

Liberal Party member Nick Evers resigned.

A cannister used by Pasminco-EZ to store radioactive waste was found on the Glenorchy tip after three days of searching for the missing container.

August

Former State cricket captain and coach Brian Davison replaced Nick Evers in the House of Assembly seat of Franklin. Twenty-seven Tasmanians aboard three Royal Australian Navy ships were amongst 600 Australian sailors who were sent to the Persian Gulf to take part in a multi-national blockade of Iraq and Kuwait following Iraq's invasion of Kuwait.

The Examiner newspaper was bought by The Advocate for \$28 million.

September

Supreme Court judge Justice Frank Neasey retired after 27 years on the Supreme Court bench. He was the longest-serving judge of any superior court in Australia.

Terry Martin was elected mayor of Glenorchy.

Hobart won the Statewide League grand final, defeating North Launceston by 58 points.

October

The historic Labor-Green Accord ended when the Government announced the adoption of the Forests and Forest Industry Strategy.

Resignation of Ken Wriedt

Mr Ken Wriedt, MHA, resigned from parliament on medical grounds after 23 years on the Tasmanian and Federal political scenes. A former insurance officer and officer in the Merchant Navy, Mr Wriedt (63) was first elected to the Senate for Tasmania in 1967 and held the Ministries of Primary Industry, Agriculture and Minerals and Energy during the years of the Whitlam Government. At the time the Whitlam Government fell he was Leader of the Government in the Senate. After the ensuing election, which put the Liberal Party in office, Ken Wriedt served in Opposition, before attempting to switch to the House of Representatives in 1980. He was beaten convincingly for the seat of Denison by the Liberal Party's Michael Hodgman. In 1982 he was endorsed for the State seat of Franklin and was elected by more than twice the quota needed for election. Mr Wriedt replaced Harry Holgate as Labor leader and was in turn replaced by Neil Batt after the electoral defeat of 1986. In the Field Government he was Minister for Roads and Transport and Minister for Police and Emergency Services.

More than 100 employees at Savage River Mines were retrenched as part of the downgrading of operations at the mine.

A downturn in the building industry plunged Hobart's building apprenticeship scheme into crisis. Forty young people lost their jobs.

The World Rowing Championships at Lake Barrington was officially opened by the Premier. An estimated 12 000 people attended the opening which included a march past of competitors from 41 nations.

Airline deregulation began.

November

The Premier called in auditors to determine whether the affairs of the Tasmania Bank were in order.

Anthony Aloia pleaded guilty to helping Edmund Rouse attempt to bribe Labour MHA, Jim Cox.

Edmund Rouse's former media interests were to be investigated by the Australian Broadcasting Tribunal.

Lara Saunders was crowned Miss Tasmania and Miss Tasmania Fundraiser was Shannon Bailey.



Lara Saunders
Photo: The Examiner

The remains of the last tribally-born Tasmanian Aborigine man, William Lanney, also known as King Billy, were found in an Edinburgh University.

North Broken Hill - Peko's scheelite mine on King Island closed.

Australia slipped into recession.

December

Tasmania's Police Commissioner, Bill Horman, resigned to take up a position with the National Crime Authority.

A modified petrol rostering system began. Service stations threatening to defy it faced hefty fines.

Retired Queensland Supreme Court judge Justice William Carter was selected to head

Tasmania's royal commission into the political bribery scandal.

The \$20 million catamaran ferry *Seacat Tasmania* took its first passenger voyage from George Town to Welshpool, Victoria.

The State government announced an agreement to purchase the German-built \$150 million passenger ferry *Peter Pan* to replace the *Abel Tasman* on the Melbourne-Devonport Bass Strait run. The new ship will be on line by mid-1993.

The State government announced that 26 branch libraries would close on 1 January and dismissed calls to return levies to councils to let them run their own library services.

Obituary

One of Tasmania's most respected innovators and inventors Mr Eric Newham Waterworth died, aged 85. Born in Hobart and educated at Hobart High and the Hutchins School, Mr Waterworth was known nationally for his invention of the Waterworth slide projector. He designed and made innovative machinery for the University of Tasmania's Physics and Chemistry Departments and in his final years worked with his son in developing a laser firefighter.

Ragamuffin won line honours in the Sydney-Hobart Yacht Race.

1991

January

A new 100 kmh maximum speed limit was introduced as part of a 10-point plan for uniform road laws throughout Australia.

More than 26 000 sheep were culled in Tasmania as part of a bid by the Australian Wool Corporation to reduce Australia's sheep glut.

Edmund Rouse was officially stripped of his CBE and his name removed from the royal honours roll. Rouse is the first Australian to lose an imperial honour.

The State government paid a \$7 million deposit for the purchase of the replacement for the Bass Strait ferry *Abel Tasman*. The deposit was paid to the German owners of the \$150 million vessel *Peter Pan*.

Darrel Baldock was awarded the Order of Australia in the Australia Day honours list for

services to the Tasmanian parliament and Australian Rules football.

February

Fire destroyed \$2 million worth of stock at the King Island Dairies.

Lady Have a Heart won the 1991 Hobart Cup.

Ray Groom resigned as Deputy Leader of the Liberal party.

The bribery royal commission opened its first day of public hearings to follow up summonses to produce documents which might help the commission in its investigations.

Bitter Spring won the Launceston Cup.

March

The Renison tin mine on the West Coast closed putting 350 miners out of work and threatening hundreds of other jobs around the State. The closure came after five weeks of union-management talks failed.

The Tasmanian Symphony Chamber Players created Australian history by performing in the underground caverns of the Mt Lyell copper mine in Queenstown.

A Renison Goldfields Consolidated Ltd task force was formed to examine options which may allow the company's West Coast tin mine to re-open.

The troubled Tasmania Bank was taken over by the SBT.

Australian National Railways planned to cut its 700-strong Tasmanian workforce by 315.

Renison mine management and unions agreed to set April 2 as the target date for the re-opening of the troubled West Coast tin mine.

April

Peter Patmore resigned from the education portfolio and chose the environment and planning portfolio in addition to his other portfolio of Minister for Justice.

May

The report of a study into cadmium levels near the Pasminco Metals-EZ refinery gave a clean bill of health to Lutana residents but they were warned not to eat homegrown vegetables.

Obituary

South-west Tasmania's retired tin miner turned naturalist and artist Mr Deny King died, aged 81. Mr King made a remote paradise for himself and his family for more than 50 years on the banks of Moth Creek at Melaleuca, near Port Davey. Charles Denison King was famous for his hospitality to bushwalkers and cruising yachtsmen and was awarded a personal commendation from the Governor of Tasmania in December 1990. His helpfulness and knowledge of the area saved many from spending freezing nights in the wilderness, while his weather reports radioed to Hobart were also instrumental in helping keep fishermen and bushwalkers safe.

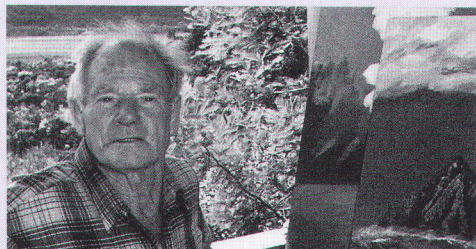


Photo: The Mercury

Legislative council elections for the seats of Meander, Derwent and Westmorland were held. The seats were won by Mr R. Hope, Mr C. Batt and Mr G. Brookes respectively.

June

Obituary

Former politician, publican and sporting identity John Coughlan died suddenly, aged 56. Mr Coughlan was a Labor MHA for the seat of Braddon in the 1970s and a football coach in the 1960s.

Neil Batt was awarded an officer in the General Division (AO) in the Queen's Birthday Honours list for 1991 for service to the Tasmanian parliament, to politics and to the community.

The Portland Council was sacked and replaced with an administrator.

Police began investigating allegations that more than \$500 000 was missing from government funds.

Mr John Johnson was appointed Tasmania's Commissioner of Police.

July

The future of Tasmania's political bribery royal commission was in doubt after Robin Gray and David McQuestin succeeded in a move to have the Supreme Court consider stopping the commission. The grounds were alleged bias.

Alan Evans, head of the Premier's Office, was charged with bargaining for public office. The incident arose from the appointment of Neil Batt as State Ombudsman in 1989.

Australian Paper Manufacturers shut down its Port Huon pulp mill, putting 115 people out of work.

August

The entire HEC-owned town of Poatina was offered for sale.

The royal commission bias claims hearing began.

Mr Neil Batt resigned as State Ombudsman.

September

The combined SBT and Tasmania banks began trading as the Trust Bank.

Clarence player Gary Williamson won the Holden William Leitch Medal for the best and fairest player in the TFL Statewide league.

North Hobart defeated North Launceston in the Statewide league football grand final.

October

Tasmania began daylight saving three weeks before the mainland states.

Cadbury Schweppes Pty. Ltd. celebrated the 70th anniversary of its establishment in Tasmania.

A full bench of the Supreme Court dismissed the bid by Robin Gray and David McQuestin to prevent the Carter royal commission from reporting on the grounds of bias.

Mr William Carter handed his royal commission report to the Governor of Tasmania.

November

The Field Labor government survived a no-confidence motion in parliament but failed to have their resource security legislation passed.

The bribery royal commission report was published.

The Liberal and Labor parties combined to force the resource security legislation through the House of Assembly.

Simone Goss was crowned Miss Tasmania 1992 and Mary-Lou Di Bari Miss Fund Raiser 1992.

The graves of 100 Tasmanian Aborigines were found at Wybalenna on Flinders Island.

December

Robin Gray was dumped as leader of the Liberal party and Ray Groom took over the leadership with John Beswick as his deputy.

Charges against Alan Evans of bargaining for public office were dismissed.

Brindabella, the 19.6 metre Farr-designed pocket maxi skippered by George Snow, took line honours in the Sydney-Hobart yacht race. *Atara*, skippered by World Champion sailor Harold Cudmore, won on corrected time.

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Chapter 2

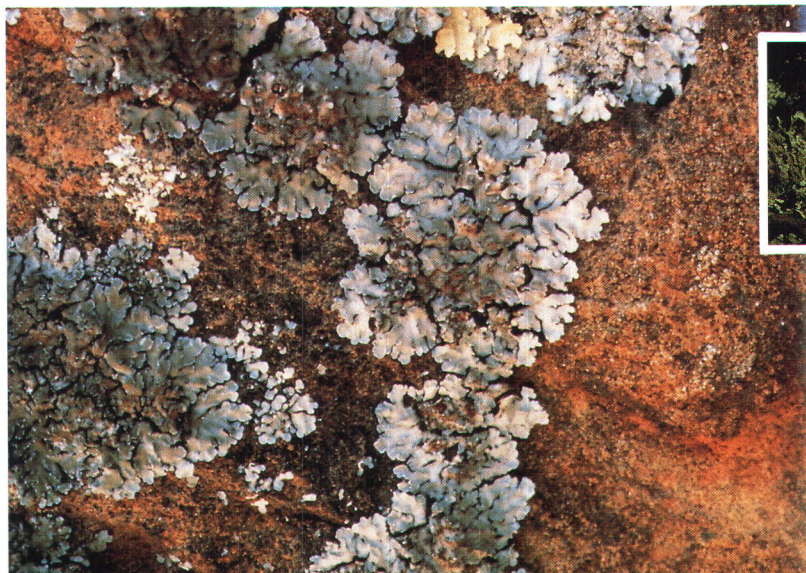
PHYSICAL ENVIRONMENT

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Sagenidium molle, a lichen of dry trunks in rainforest, characterised by its woolly thallus. (photo: G. Kantvilas)

Pseudocyphellaria multifida, a very common rainforest lichen in shady habitats. (photo: G. Kantvilas).



Flavoparmelia haysomii, a common lichen on rocky outcrops in sclerophyll forest and buttongrass moorland. (photo: G. Kantvilas)

Pyxine nubila, an uncommon lichen of dry sandstone outcrops in sclerophyll forest. (photo: G. Kantvilas)

Lichens occupy an important position in the flora of Tasmania; they are the most diverse group of plants present in Tasmanian rainforest. An article in this chapter by Dr G. Kantvilas gives a description of the distribution of lichens in Tasmania.



Cladonia ecmocyna, an alpine species confined to the highest peaks. (photo: G. Kantvilas)



Placopsis sp., common on alpine rocks, especially along roadsides. (photo: G. Kantvilas)



Pseudocyphellaria glabra, a common rainforest lichen. (photo: G. Kantvilas)



Pseudocyphellaria colensoi, a large foliose lichen of the upper parts of tree trunks in rainforest. (photo: J. Jarman)



Menegazzia platytrema, a lichen of the rainforest canopy and sunny trunks in eucalypt forest and scrub. (photo: J. Jarman)



Hypogymnia tasmanica, a common lichen on canopy branches in rainforest. (photo: G. Kantvilas)



Xanthoria ligulata, common on coastal rocks. (photo: G. Kantvilas)



Caloplaca sp., typical of coastal rocks above the high-tide water mark; also found on concrete and on sandstone walls. (photo: G. Kantvilas)

Chapter 2

PHYSICAL ENVIRONMENT

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian mainland. Roughly shield-shaped with the greatest breadth in the north, the Tasmanian mainland extends from latitude 40°38' south to 43°39' south, and from longitude 144°36' east to 148°23' east. The coastline is bounded by the Southern Ocean on the south and west and the Tasman Sea on the east, while the approximately 240 kilometres wide Bass Strait separates the island from the Australian mainland. Macquarie Island, a part of the State, is situated at 54°38' south, 158°53' east in the Southern Ocean.

The area of the whole State, including the lesser islands, is 68 331 square kilometres or about 0.9 per cent of the total area of Australia (7 686 900 square kilometres); it is just under one-third the size of Victoria, the smallest mainland State, and is less than half the size of England and Wales.

2.1 AREA OF ISLANDS

Island	Area (square kilometres)
Badger	10
Bruny	362
Cape Barren	445
Clarke	113
Flinders	1 374
Hunter	74
King	1 099
Macquarie	123
Maria	101
Prime Seal	10
Robbins	101
Schouten	34
Three Hummock	70
Vansittart	6
Total islands	3 922
Mainland Tasmania	64 409
Total Tasmania	68 331



Mainland Australia, extending north of the Tropic of Capricorn, and with much of its area in the zone of the sub-tropical anti-cyclones, is basically a warm, dry continent. Tasmania is in the temperate zone and practically the whole island is well watered with no marked seasonal concentration; there are no deserts or drought areas as found extensively on the adjacent mainland. Being south of latitude 40°, it is on the edge of the wind belt commonly known as

the Roaring Forties and, with South America, the nearest land mass to the west, Tasmania's weather is subject at times to strong winds and heavy rain about the south and west coastal areas. Its insular position provides protection against temperature extremes—the variation between summer and winter mean temperatures in coastal towns rarely exceeds 8° Celsius.

Apart from the Great Dividing Range in the east, continental Australia is predominantly a land of low plateaux and plains with little relief. In contrast, Tasmania could legitimately be called the island of mountains, since it has the largest proportion of high country to its total area, compared with the other States.

2.1 PHYSIOGRAPHY

Tasmania, a mere 296 kilometres from north to south and 315 kilometres from east to west, has a wide variety of mountains, plateaux and plains, of rivers, lakes, and tarns, of forest, moorland and grassland, of towns, farms and uninhabited country.

The temperate maritime climate partly explains Tasmania being called the most English of all States but other factors operate to heighten the comparison—the pattern of agricultural settlement with orchards, hedges and hopfields; the lake country; the early freestone architecture still common in the east and south-east and the roadsides and villages dotted with oaks, elms and poplars.

With eight mountains exceeding 1500 metres, 28 above 1220 and a substantial part of the Central Plateau above 900 metres, Tasmania is truly an island of mountains. The tallest is Mt Ossa (1617 metres) located with a group of mountains, including Cradle Mountain, to the north-east of Queenstown and west of the highland lake country on the Central Plateau containing Lake St Clair, Australia's deepest natural freshwater lake.

Although the rivers are short, Tasmania is virtually criss-crossed by a network of rivers and lake systems. In the south, the Derwent flows from the Central Highlands past Hobart, providing one of the world's best harbours, to the sea at Storm Bay. The Gordon River takes the waters of Lake Gordon and Lake Pedder and is joined by the Franklin River before flowing into Macquarie Harbour in the west. The Huon

2.2 MOUNTAINS, LAKES AND RIVERS

<i>Mountains</i>	<i>Height (metres)</i>
Mt Ossa	1 617
Legges Tor	1 573
Barn Bluff	1 559
Mt Pelion West	1 560
Cradle Mountain	1 545
Stacks Bluff	1 527
Mount Massif	1 514
Mount Geryon	1 510

<i>Lakes</i>	<i>Area (square kilometres)</i>
--------------	---------------------------------

Lake Gordon (a)	272
Lake Pedder (b)	241
Great Lake (c)	170
Arthurs Lake (c)	64
Lake Burbury (a)	53
Lake Sorell (c)	52
Lake King William (a)	41
Lake Echo (c)	41
Lake Mackintosh (a)	29
Lake St Clair (c)	28
Lake Pieman (a)	22
Lake Rowallan (a)	9
Lake Rosebery (a)	7
Lake Barrington (a)	7
Lake Cethana (a)	4
Lake Murchison (a)	4

<i>Rivers</i>	<i>Length (kilometres)</i>
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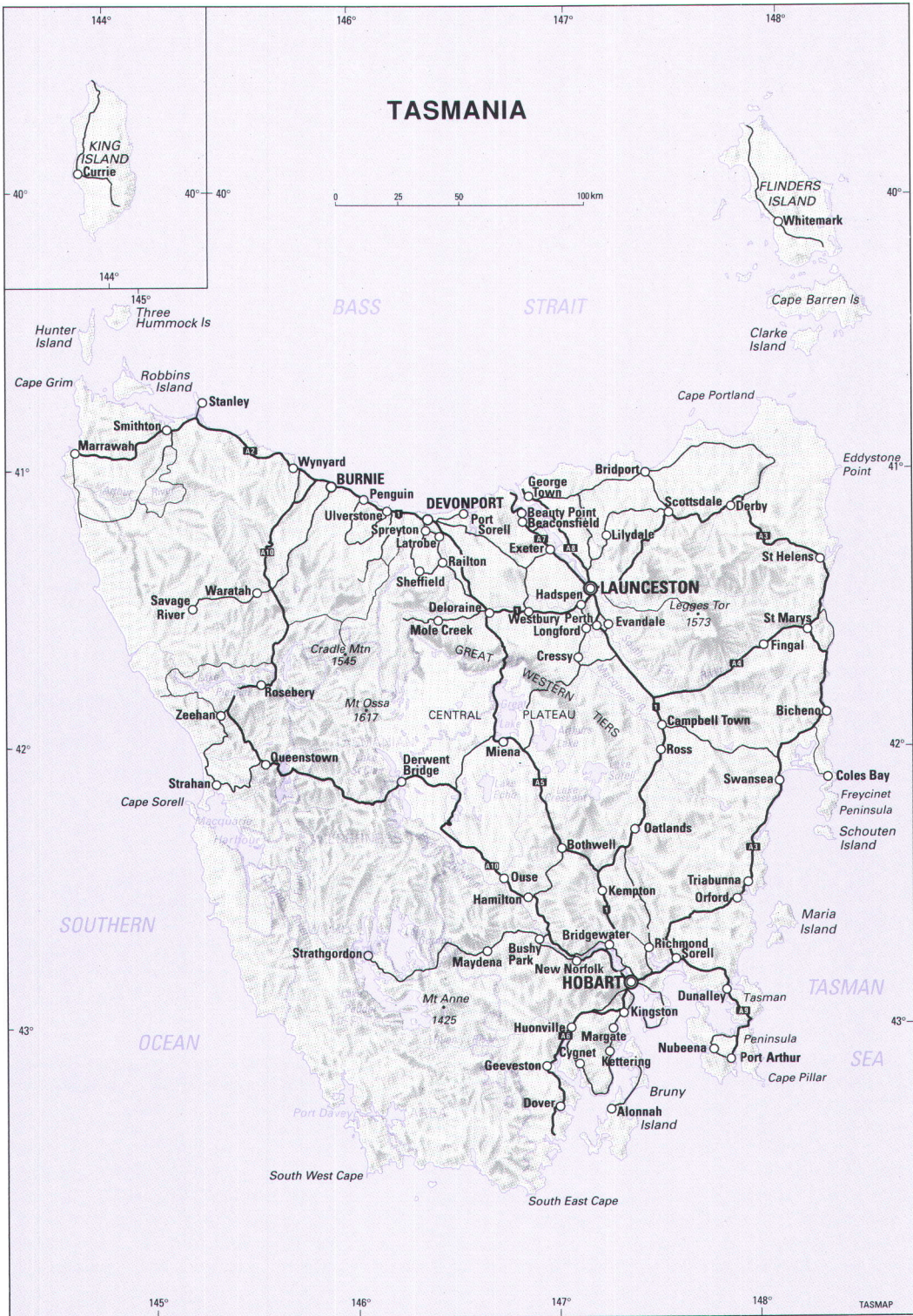
South Esk	201
Gordon	185
Derwent	182
Huon	170
Mersey	146
Franklin	118
Arthur	113
Pieman	100
North Esk	82

(a) Man-made.

(b) Man-made - inundated the smaller natural Lake Pedder.

(c) Natural lake enlarged by dam(s).

River drains eastwards from its headwaters at Scotts Peak Dam on Lake Pedder, reaching the sea in D'Entrecasteaux Channel south of Hobart. The State's longest river is the South Esk in the North flowing from the north-east to join the North Esk at Launceston to create the Tamar. Other rivers include the Mersey, Forth and Leven flowing to the North Coast and the Pieman and Arthur rivers on the West Coast.



LICHENS

(This article was contributed by Dr Gintaras Kantvilas, Tasmanian Herbarium, Tasmanian Museum and Art Gallery.)

A general account of Tasmania's vegetation by Dr Winifred Curtis was published in the 1990 Tasmanian Year Book. The contribution below deals specifically with lichens, a group of non-vascular plants, or cryptogams, which occupy an important position in the flora of Tasmania.

What is a lichen?

Lichens are complex organisms comprised of two separate plants, a fungus and an alga. These two components co-exist in a mutually beneficial association, termed *symbiosis*, and form a new, self-sufficient plant body called a *thallus*, in which the alga produces food for the fungus by photosynthesis, in exchange for other nutrients from the fungus. Aspects of the relationship between the fungus and the alga are not yet fully understood, but the extent to which lichens have colonised the earth demonstrates the success of this remarkable group of plants. Today approximately 13 500 species of lichens are known, with representatives on all continents, even in the harshest environments.

In Tasmania, lichens occur in virtually all terrestrial habitats from the intertidal zone to the summits of the highest mountains. They colonise rocks, soil, wood, bark, charcoal and living leaves, as well as a range of man-made materials such as bitumen, glass, rubber, concrete and paint.

Types of lichens

Lichens adopt a wide variety of growth forms, including shrubby types (*fruticose*), flat leafy types (*foliose*), and thin, tightly adnate types (*crustose*). In addition to their general appearance, lichens are classified according to microscopic characters based on the anatomy of the thallus, their fruiting bodies and spores. Chemical composition may also be used to distinguish closely-related species.

Today approximately 700 named lichen species are known from Tasmania. However, many groups, particularly in the crustose lichens, remain poorly known, and significant additions to the flora continue to be made as research continues. Thus the diversity of the

Tasmanian lichen flora is likely to comprise in the order of one thousand species.

Relationships of the flora

Only about five per cent of the lichen flora is endemic to Tasmania, in sharp contrast to the flowering plants and conifers of which about 20 per cent are endemic. Instead the flora displays similarities to that of other world regions with a similar geographical location, climate or geological origin, to the extent that the same or at least closely related species often occupy similar habitats in many areas of the world.

The flora of wetter western or highland parts of Tasmania is most similar to that of New Zealand and southern Chile, and reflects the historical conjunction of these lands in the supercontinent of Gondwana, more than eighty million years ago. In contrast, the drier eastern parts of Tasmania display floristic relationships with mainland Australia, reflecting similarities in climate and more recent land connections during periods of lower sea-level.

The general antiquity and slow evolutionary change of lichens, and the relatively efficient dispersal of many species, means that floristic similarities with more distant regions are also evident. Thus the Tasmanian flora includes many cosmopolitan lichens and shares some species with tropical regions.

Lichens of the major vegetation types

(i) Rainforest

Lichens are the most diverse group of plants present in Tasmanian rainforest. Most are epiphytic and occur on bark, wood, mosses and liverworts, or on leaves. Within a seemingly uniform patch of rainforest there are many different microhabitats, each supporting a characteristic suite of lichens, to the extent that a single tree is analogous to an entire landscape of vegetation, complete with its own diverse topography. For example, more than seventy different species have been recorded from a single Huon Pine tree.

Lichens on twigs are predominantly crustose, although the fruticose Old Mans Beard (*Usnea* spp.) may be abundant in the forest canopy. Whilst appearing as little more than greyish smudges, twig species may be remarkably diverse. Most, such as the common *Coccotrema cucurbitula*, occur along the upper

surface of the twig, but others such as *Opegrapha viridis* and *Porina hyperleptalia*, visible only under magnification, are confined to a narrow band along the underside.

Lichens on branches are usually brightly coloured. The crustose species, *Pertusaria truncata*, is commonly dominant, but grey foliose lichens from the genera *Hypogymnia*, *Menegazzia* and *Parmelia* are present also. In contrast, upper trunks of trees are usually dominated by green foliose lichens from the genera *Pseudocyphellaria*, *Psoroma* and *Nephroma*. These species contain blue-green algae, enabling them to fix atmospheric nitrogen and so provide an important source of nutrient for the whole forest. Similar lichens also occur on the lower trunks of trees with smooth bark such as *Sassafras* and *Leatherwood*. The most common lichens are typically *Pseudocyphellaria glabra*, *P. multifida* and *Psoroma microphyllizans*, while seemingly bare areas of bark often support inconspicuous crustose lichens, for example, from the genera *Pyrenula*, *Arthothelium* and *Thelotrema*.

The lower trunks of the oldest forest trees, especially *Myrtle*, frequently develop distinct wet-dry sides, due to the leaning of the tree, position of overhead branches and pathways of runnels of water. Wet sides are dominated by mosses and liverworts and by the fruticose, tufted lichen genus *Sphaerophorus*. Whilst some species of this genus, for example, *S. tener* and *S. melanocarpus*, are ubiquitous, others are confined to particular forest types. Thus *S. ramulifer* and *S. insignis* occur mainly in tall, well-formed forest communities, while *S. imshaugii* and *S. scrobiculatus* are confined mainly to the scrubby, tangled rainforests of the South-West.

The dry fissured sides of old trees are commonly rich in small, inconspicuous crustose species, the most common being *Lecanactis abietina* and *Chaenotheca brunneola*. These lichens also occur in similar habitats in Northern Hemisphere forests. *Sagenidium molle*, a species with a grey, woolly thallus, is another characteristic species of dry trunks and provides a substrate for semi-parasitic lichens such as the microscopic, endemic *Arthonia sagenidii*.

Two further noteworthy Tasmanian endemic lichens from rainforest are the species of *Roccellinastrum*. *R. lagarostrobi* has a woolly, tufted thallus and occurs on the leafy shoots of

Huon Pine, while its close relative *R. flavescens* grows on the leaves of Pencil Pine.

(ii) *Sclerophyll (eucalypt) forests*

Despite their often massive size, eucalypts are usually poor hosts for lichens, except in some highland woodlands. Their bark is unstable or may be shed seasonally, and is unsuitable for most species, although lichens may occur on dead branches or on buttresses. Typical lichens occurring on eucalypts include *Neophyllis melacarpa*, *Cladia schizopora* and *Cladonia rigida*. Fallen logs may support grey foliose species of *Hypogymnia*, whilst *Thysanothecium scutellatum* and the crustose species of *Hypocenomyce* occur on charcoal.

In sclerophyll forest, most epiphytic lichens are found on understorey trees. In wetter sites, trees with fibrous bark such as Musk (*Olearia argophylla*) or Dolly Bush (*Cassinia aculeata*) may support abundant lichens, including the blackish gelatinous-like species of *Collema* and *Leptogium*, and many attractive foliose species from the genera *Nephroma*, *Sticta* and *Pseudocyphellaria*, and the family Pannariaceae.

Trees with smooth bark such as Dogwood (*Pomaderris apetala*) and *Acacia* species are excellent hosts for crustose lichens, for example, *Phlyctis subuncinata* and *Pertusaria gibberosa*, which form speckled greyish mosaics on trunks. In more open forests, several grey foliose species such as *Parmelina pseudorelicina* and *Menegazzia subpertusa*, the latter with conspicuous holes in its upper surface, become abundant.

In most sclerophyll forests, the richest habitats for lichens are rocks and soil. The former are usually dominated by the green foliose genus *Xanthoparmelia* which, with almost fifty species, is the largest lichen genus in Tasmania. Other common and conspicuous lichens on rocks include *Flavoparmelia haysomii* (yellowish), *Pseudocyphellaria neglecta* (brown) and *Rimelia reticulata* (grey).

On soil, the fruticose genera *Cladia* and *Cladonia* are usually abundant. The latter can have a wide range of attractive forms, including goblet-shaped thalli, such as *Cladonia pyxidata*, and antler-shaped ones, such as *C. corniculata*. *Heterodea muelleri* is a particularly striking soil species which has become uncommon in Tasmania as grazing and clearing have altered its dry woodland habitat.

(iii) Buttongrass moorland

Lichens are often a conspicuous component of buttongrass moorland and may constitute the dominant ground cover in some communities. Most species occur on soil where the major genera include *Cladonia*, *Cladia* and *Siphula*. Lichens are also found on large rock outcrops which usually provide some protection from the frequent fires which occur in this vegetation. A large number of species are present, with the apices of the rocks crowned with *Parmelia signifera* and tufts of *Usnea torulosa*. Crustose lichens, apparent only by their small black fruiting bodies, also occur on small pebbles exposed by erosion. Epiphytic lichens, for example, species of *Menegazzia*, *Hypogymnia* and *Usnea*, and small crustose lichens such as *Mycoblastus* and *Lecidea* species, occur on occasional, emergent shrubs such as *Banksia*.

The Tasmanian moorland lichen flora shares several species with other cold, treeless, Southern Hemisphere regions such as the subantarctic islands, for example *Fuscidea absolodes*, *Knightiella splachnirima* and *Lithographa subantarctica*. It also shows floristic and ecological similarities to the moorlands of Europe with which it shares almost one quarter of its lichen species.

(iv) Alpine vegetation

Although lichens are well developed in Tasmania's alpine vegetation, relatively few species are restricted to high altitudes and most montane species also occur in the wet lowlands. Of the truly alpine lichens, a significant number have bipolar distributions, occurring in Antarctic and Arctic regions as well as on intervening high mountains. These include *Alectoria nigricans*, *Coelocaulon aculeatum*, *Pseudophebe pubescens*, *Thamnolia vermicularis* and several species of the black foliose genus *Umbilicaria*, sometimes called Rock Tripe.

Other alpine lichens, more typical of the Southern Hemisphere include the Coral Lichens, *Cladia fuliginosa* and *C. moniliformis*, the genus *Siphula*, especially *S. decumbens* which forms extensive pale grey carpets, the genus *Placopsis* which forms neatly lobed rosettes on rocks, and the genus *Neuropogon*, a relative of Old Mans Beard restricted to highest peaks. The genus *Cladonia* is also common, with two vividly red-fruited species, *C. murrayi* and *C. subdigitata*, being particularly attractive.

As with the flowering plants, there is a marked difference between the lichen floras of the dolerite mountains of central and eastern Tasmania and the mainly Precambrian peaks of the South-West. The latter support a remarkable flora rich in characteristically Tasmanian species such as *Pycnothelia caliginosa*, *Pertusaria gymnospora*, *Siphula jamesii* and the endemic *Siphulella coralloidea*.

(v) Coastal areas

The major groups of lichens found on coastal rocks display a distinctive coloured zonation which is repeated throughout the world. *Lichina confinis*, a black fruticose species, is often common just below the water line. Within the splash zone, species of the crustose genus *Verrucaria* form a black band, whilst above this is an orange zone of *Caloplaca*. Higher and extending inland is a rich zone of mainly brightly coloured species including grey crustose lichens from the genera *Ochrolechia* and *Buellia*. Foliose and fruticose lichens include the orange species, *Xanthoria ligulata* and *Teloschistes spinosus*, greenish *Xanthoparmelia* species, olive *Neofuscelia* and grey species of *Heterodermia* and the family Parmeliaceae.

(vi) Settled areas

Although not as diverse as in native vegetation, lichens may also be abundant in settled areas, especially where air pollution is minimal. Garden trees and old fences can be abundantly clad in the green foliose species, *Flavoparmelia rutidota*, the grey species *Punctelia subrudecta* and *Physcia adscendens*, and crustose lichens such as the powdery, yellow species of *Candelariella*. In pastures, the bright orange *Xanthoria parietina* and flattened green fruticose species of *Ramalina* are common on Poplars and Elms.

Lichens also grow on bitumen paths or on roofing tiles with the olive species *Neofuscelia pulla* and greenish *Xanthoparmelia* species often common. Old sandstone walls can also be valuable sites of lichen diversity in the city.

In the 200 years of European colonisation, substantial areas of Tasmania have been irrevocably altered, resulting in local extinctions of many species. Nevertheless, other lichen species have managed to establish or survive, preserving an element of native vegetation in the altered environment and providing an important source of floristic diversity.

2.2 FOREST MANAGEMENT

(The following section was prepared by the Forestry Commission Tasmania.)

Of the total forest area of 3 649 000 hectares, 38 per cent is in State Forest, 36 per cent is privately owned, 14 per cent is Crown Land and 11 per cent is in Crown Reserves.

The need for permanent reservation of land for timber production was first given statutory recognition with the *Waste Lands Act* 1881. A program of acquisition of land suitable for dedication as State Forest has seen the gazetted area reach 1 624 003 hectares at 30 June 1991.

State Forests: Tenure by the Forestry Commission under the *Forestry Act*, 1920.

Forest reserves: Areas provided for recreational, scientific, environmental and aesthetic purposes established within State Forests.

Crown Land: Unallocated land with tenure by the Department of Environment and Planning, management by the Department of Parks, Wildlife and Heritage; wood production and sale controlled by the Forestry Commission.

Crown Reserves: Principally National Parks and State Reserves administered under the *National Parks and Wildlife Act* 1970.

HEC: Land vested in the Hydro-Electric Commission.

The Forestry Commission has statutory responsibility to implement the Government's forest policy, foster private forestry in the State, and manage the State Forests, Timber Reserves and timber on Crown Land.

Timbers

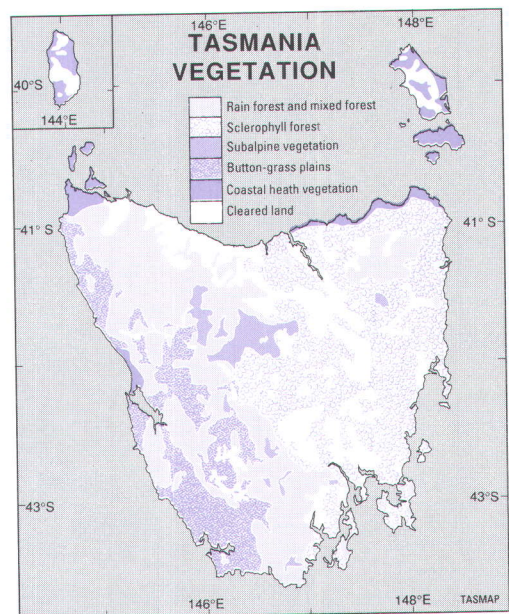
Hardwoods: The most valuable eucalypts for commercial use are those which belong to the 'ash' group; stringy-bark (*Eucalyptus obliqua*), gum top stringybark or alpine ash (*Eucalyptus delegatensis*) and swamp gum or mountain ash (*Eucalyptus regnans*). In the south and south-east Tasmanian blue gum (*Eucalyptus globulus*) occurs in high quality forests. In areas where the annual rainfall is below 760 mm the more

important eucalypts are black peppermint (*Eucalyptus amygdalina*), swamp or black gum (*Eucalyptus ovata*), white gum (*Eucalyptus viminalis*), stringybark (*Eucalyptus obliqua*) and white peppermint (*Eucalyptus pulchella*).

Softwoods: Some of Tasmania's native forests contain softwood timbers, including King Billy pine, Huon pine and celery top pine. They are very slow growing and in short supply. Although they are of high commercial value, most of these stands are now permanently reserved from timber harvesting.

Plantations

Fast-grown softwood plantations have been established in State Forest initially to fill an expected eucalypt sawlog scarcity. In addition, these softwood plantations yield a long-fibred pulp for paper production. Softwood plantations cover less than 2.4 per cent of State Forest area and radiata pine (*Pinus radiata*) is the principal species planted. An increasing area of native hardwood plantations has been established in recent years due to the availability of Commonwealth funds for various afforestation projects. In 1991 Tasmanian State Forest plantations comprised 39 329 hectares of softwoods and 4263 hectares of hardwoods. Most softwood plantations are in the Fingal, Scottsdale, Devonport and Burnie districts, while hardwoods are distributed more widely.



2.3 NATIONAL PARKS

(The following section was contributed by the Department of Parks, Wildlife and Heritage.)

It was during the 19th century that land in Tasmania was first set aside because of its beauty. Early Lands Department maps and charts were marked with 'reserve for scenic purposes'. These reservations were made of all places under the *Waste Lands Act 1863* and subsequently under the *Crown Lands Act*. By 1899 Tasmania had twelve reserves: six scenery reserves, three cave reserves, two falls reserves and a fernery reserve.

Our First National Parks—the Scenery Preservation Board

The establishment of the early reserves was linked with the feeling that Tasmania's scenic viewpoints were of tourism value. In 1885 an area of 300 acres was reserved at Russell Falls. This was later extended to 27 000 acres in 1915. However, national park status had to wait until the Government passed more comprehensive scenery preservation legislation in 1915, and with this the establishment of the Scenery Preservation Board.

In 1916 Mt Field and Freycinet became Tasmania's first national parks, and in 1922 a scenic reserve and wildlife sanctuary were established within the land from Cradle Mountain to Lake St Clair. The Scenery Preservation Board now had a total area of 223 000 acres in its care.

The Scenery Preservation Board was responsible for the protection of flora and the preservation of scenery and, after the late 1950s, the control of roadside advertising boards. It was not responsible for the protection of fauna.

Animals and Birds Protection Board

Prior to 1928 fauna was protected by the Crown Lands and Police Departments. In view of the economic value of the trade in the furs of native animals and the need to safeguard against over exploitation of this resource the *Animals and Birds Protection Act* was passed in 1928.

The Act created a Board to administer it and to represent all interests concerned with native fauna. The Police Department enforced the Act.

The work of this Board included publishing leaflets and posters with advice on the correct method of pegging animal skins to dry to get the best product and hence the best return.

Wildlife sanctuaries were proclaimed and applications to declare wildlife sanctuaries investigated. The Board monitored and guarded significant wildlife habitats. Efforts were made to protect the dwindling gannet population on Cat Island (Furneaux Group) and studies showed the importance of Moulting Lagoon as a major black swan breeding ground.

Other work included the publishing of posters to educate the public on the value of native birds as Nature's 'pest controllers'.

In 1961 the Board received a boost to its resources in the form of a third vehicle—a far cry from today's fleet of vehicles and other sophisticated equipment.

Lake Pedder

But new troubles were arising. While there was increasing support for the reservation of South-West Tasmania, the conservation-versus-development debate flared again with the proposal to flood Lake Pedder.

Public feeling on this issue ran high. The Legislative Council set up a Select Committee, which was ultimately unable to save Lake Pedder but which revealed that Tasmania lacked qualified officers in the fields of park management and wildlife conservation. It recommended a new system of managing the natural environment and particularly the establishment of a professional park service.

The National Parks and Wildlife Service

The National Parks and Wildlife Service commenced operations on 1 November 1971 under the *National Parks and Wildlife Act* of 1970. This Act repealed the *Scenery Preservation Act* of 1915 and the *Animals and Birds Protection Act* of 1928. The Act made new provisions for the establishment and management of national parks and other reserves and the conservation of flora and fauna. Under the Act, a Director was appointed. The Director's role included responsibility for the development of land for conservation purposes, managing reserved land, preparing management plans, carrying out re-

search and other activities relating to the conservation of flora and fauna, providing education facilities and enforcing regulations under the Act.

Despite the limited resources it had to carry out its large task the Service got off to a vigorous start under the directorship of Mr Peter Murrell, who worked in this role until his retirement in 1990. The early years were hectic ones with the establishment and consolidation of the role of the Service, the declaration of new national parks and reserves and a rapid growth in staff and expertise. In 1971 the Service's staff was 59, by 1974 it was 109.

The early years of the Service saw the creation of the Mt William, Maria Island and Asbestos Range National Parks and the proclamation of Macquarie Island as a nature reserve. The establishment of the Mt William National Park provided a secure habitat for the endangered forester kangaroo. Another endangered animal whose management was secured during this time was the Cape Barren goose.

In 1975 Aboriginal heritage became protected under the *Aboriginal Relics Act*. This was followed by the formation of an Archaeology Section to survey and protect Aboriginal heritage. In the same year the use of snares to take brushtail possums was forbidden and in the following year the impressive mountain of Precipitous Bluff was saved from proposed limestone mining and included in the Southwest National Park.

These developments in conservation mirrored the growing worldwide community feeling for conservation of the environment. Locally, the conservation movement was growing and becoming increasingly active. The conservation-versus-development debate was on the boil again; this time the most significant issue was undoubtedly the proposed Lower Gordon hydro-electric power scheme, publicly announced in 1979, which would have flooded the Franklin River. This issue came to dominate not just Tasmanian but Australian politics. During this debate the Service was sometimes at odds with the Government of the day, other Government instrumentalities and the conservation movement. However, out of this controversy came the Franklin-Lower Gordon Wild Rivers National Park which was proclaimed in 1981. This was followed by World Heritage listing of the three large western wilderness national parks in 1982.

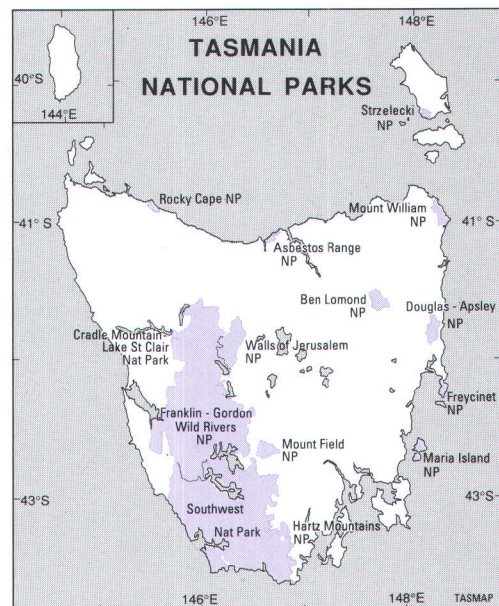
In 1982 the federal *Historic Shipwrecks Act* came into force in Tasmanian waters.

Further Changes

In 1987 the National Parks and Wildlife Service was amalgamated with the Department of Lands to form the Department of Lands, Parks and Wildlife. This Department was altered again in 1989 to create the Department of Environment and Planning and the Department of Parks, Wildlife and Heritage. This latter Department today manages not just land reserved under the *National Parks and Wildlife Act* but also under the *Crown Lands Act* of 1976, as well as providing for the conservation of wildlife and of Aboriginal and historic heritage. Approximately 300 people are employed by the Department, which has as its symbol the Tasmanian devil.

2.3.1 World Heritage Nomination

The Tasmanian Wilderness World Heritage Area comprises 1.37 million hectares of essentially wild, natural country in central and south-western Tasmania. It was jointly nominated for World Heritage listing by the Commonwealth and State governments in September 1989 and inscribed on the World Heritage list by the World Heritage Committee of UNESCO in December 1989.



Part of the World Heritage Area (the Cradle Mountain-Lake St Clair, Southwest and Franklin-Gordon Wild Rivers National Parks) was originally recognised by the World Heritage Committee in 1982. The 1989 listing enlarged the original area by approximately 600 000 hectares. It also includes the Lemnathyme area; the Walls of Jerusalem National Park and Central Plateau Conservation Area; the majority of the Central Plateau Protected Area west and north of Great Lake; Marakoopa Cave, Devils Gullet and Exit Cave state reserves; the three forest reserves of Meander, Liffey and Drys Bluff; the area north of Lake Gordon including the Denison and King William Ranges; the western strip of the southern forests stretching from Wayatinah to South Cape Bay including the upper reaches of the Weld, Huon and Picton Rivers; Hartz Mountains National Park; and in the west: the Broken Hills, south-east Macquarie Harbour, Sarah Island Historic Site, Birchs Inlet to Spero River, Governor River, Eldon Ranges and north to Sophia River.

The World Heritage Area now contains values not protected within the original area; notably areas of very tall eucalypt forest, extensive cave systems, a core breeding area for the endangered orange-bellied parrot and ice-age Aboriginal cave-art sites.

The integrity of the original nomination has been greatly enhanced by the inclusion of important alpine and sub-alpine areas, karst and glacial features. These and other values were identified by the numerous reports to the Commission of Inquiry into the Lemnathyme and Southern Forests, established by the Commonwealth Government in 1988 to investigate and report on the World Heritage qualities of this area.

The Tasmanian Wilderness World Heritage Area is subject to a joint Commonwealth/State management arrangement. This consists of the Ministerial Council, chaired by the Premier which approves expenditure and management plans and is supported by a Standing Committee of officials from both governments. The Council also receives advice from a Consultative Committee which has an independent chairperson and comprises 15 members nominated by both governments as representatives of different interests. A joint rolling program of recurrent and capital funding for World Heritage Area management has been agreed with Commonwealth funds guaranteed until 1994.

Day-to-day management of the World Heritage Area is carried out by the Tasmanian Department of Parks, Wildlife and Heritage. Field bases are located at Cradle Mountain, Lake St Clair, Strahan, Queenstown, Mt Field, Liawenee, Marakoopa and Hastings caves.

Preparation of a management plan for the entire World Heritage Area commenced in December 1989 with the launch of the most extensive program of public participation ever undertaken for reserve planning in Tasmania. Selected research programs are carried out to gain information for planning and management.

World Heritage Area management activities include providing visitors with information, interpretation and assistance, search and rescue, fire prevention and suppression, providing and maintaining a range of visitor facilities, walking track upgrading and maintenance, rehabilitation, environmental monitoring and exotic species control.

2.4 CLIMATE

(The following section was contributed by the Bureau of Meteorology.)

Since Tasmania lies between latitudes 40°S and 43.5°S and is an island with no point more than 115 kilometres from the sea, its climate is classified as temperate maritime. On the coast the daily temperature range is about 7°C but inland the range is almost doubled, indicating a slight continental effect.

Prevailing westerly winds produce a marked west-east variation of cloudiness and rainfall, but the variation of temperature is governed more by elevation and distance from the coast.

Summers are mild and are characterised by greatly lengthened days. The sun reaches a maximum elevation of 70°–73° in mid-summer, giving about 15 hours of daylight. In mid-winter, the sun's elevation does not exceed 20°–23° and the shortest day consists of about nine hours of daylight.

In winter and early spring, westerly winds reach their greatest strength and persistence, causing a distinct increase in rainfall in the west and north-west. In the east and south-east, rainfall is more evenly distributed throughout the

year. In comparison with those areas of Europe and North America which are at similar latitudes, Tasmania enjoys a very temperate climate. This is due to the stabilising effect of surrounding oceans whose temperatures change by some 6°C or 7°C throughout the year. The higher proportion of ocean to land area confers a similar benefit on the Southern Hemisphere as a whole.

2.4.1 Winds

The prevailing airstream over Tasmania, the Roaring Forties, is westerly with actual winds varying from northwest to southwest. The greatest strength and persistence of winds occurs during late winter and early spring, but the speed and direction vary with the eastward passage of high and low pressure systems. In the summer months, when the westerlies are weak, afternoon sea breezes become the predominant wind in coastal areas. Periods of more humid north-easterly winds are most likely in the summer and early autumn.

Winds of gale force (34 knots) or greater are more likely to come from the western quarter as deep lows pass just to the south of Tasmania.

2.4.2 Temperature

Temperature decreases with height at an average rate of about 0.7°C per 100 metres. Thus, in a mountainous island like Tasmania the isotherms (lines joining points of equal temperature on a map) will be much influenced by topography. Greater cloud cover over the western half further decreases day-time temperatures in the west, while the Föhn effect warms and dries the westerly airstream as it descends to the eastern areas.

The incidence of frost (air temperature of 0°C or less) is markedly affected by elevation and distance from the coast. Widespread severe frosts are experienced in winter on the Central Plateau and in inland valleys. Inland centres below 300 metres are frost-free only in summer although the north coast, the east and south-east have few frosts from early October until late April. Above 300 metres there is no frost-free month.

Tasmania only occasionally experiences the hot days common in the mainland Australian States. High temperatures in the east and south-east of Tasmania generally occur on the last day of a warm spell during which a dry airmass of continental origin is advected over the State from a direction between north and north-west. Some cooling in the lower air layers over the waters of Bass Strait prevents the northern coast from reaching the higher temperatures that are experienced in the south under these conditions. The highest temperature recorded in Tasmania is 40.8°C, at Bushy Park in December 1945 and at Hobart in January 1976. The lowest temperature recorded is -13.0°C at Shannon, Tarraleah and Butlers Gorge in June 1983.

2.4.3 Rainfall

Rainfall over Tasmania is largely governed by the interaction of airstream and topography. Since the prevailing winds are westerly the higher annual totals are recorded in western highland areas, but there are parts of the north-east which very efficiently intercept the less frequent bursts of humid north-easterly winds. In the west, annual totals vary from 1500 to 3500 mm, whereas in the eastern half the range is from 50 to 1500 mm.

**2.3 TEMPERATURES AT SELECTED STATIONS,
TASMANIA, 1991 (°C)**

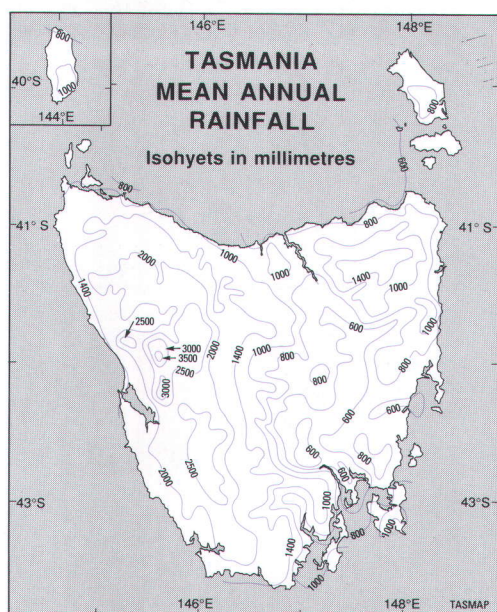
Station	Summer (Dec-Feb)		Autumn (Mar-May)		Winter (June-Aug)		Spring (Sep-Nov)	
	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.
Hobart	21.6	11.7	17.4	8.7	12.8	6.0	17.3	8.1
Launceston Airport	22.3	9.9	17.6	5.7	12.0	3.2	16.7	5.5
Devonport	20.7	11.5	17.7	7.7	13.0	5.2	16.1	7.0
St Helens	23.4	12.0	19.3	7.1	14.9	4.0	19.1	6.5
Queenstown	19.3	8.4	16.0	5.5	12.1	3.7	15.2	5.2

Extreme three to five day rainfalls occur most often on the West Coast in late June, when the westerlies are increasing in strength and persistence, and the sea temperature is higher than the land temperature. In the north, short periods of extreme precipitation occur when wind flow is sustained for up to two days from the north-east, usually in mid to late autumn. The high moisture content of such streams from over the relatively warm waters of the Tasman Sea results in heavier, if less prolonged, rainfall than is produced in the westerly streams.

Rainfall is less reliable in the east, south-east, Midlands and Derwent Valley. Highest rainfall in these areas tends to occur in autumn and spring, under the influence of small cyclonic depressions off the East Coast.

Effective rainfall is the amount necessary to compensate for evaporation, begin germination and maintain plant growth above the wilting point. Average rainfall is sufficient for this purpose from May until September.

From October to January the chance of receiving effective rainfall lessens, except in the west and north-west, where the probability remains mostly better than 50 per cent. Over much of the eastern half, the chance of receiving at least effective rainfall during the summer months is very small.



2.4.4 Snow, Hail and Thunderstorms

Snow can be experienced over the highlands, above approximately the 900 metre level, at any time of the year. Heaviest snowfalls tend to occur in July and August. Extensive snow below 150 metres occurs, on average, less than once every two years, and is associated with an unusually vigorous outbreak of cold air from Antarctic regions. There is no permanent snowline, but patches of snow often remain on the highest peaks until December.

Hail is most likely in spring, though it is possible in any month. Large hail is usually associated with severe thunderstorms and is more likely in the warmer months. It does particular damage to fruit crops in the Huon Valley and Tasman Peninsula if it occurs in late spring.

Thunderstorms are most common in the north and west of the State and are mostly associated with the lifting of warm moist air by a cold front. The north and west report ten to fifteen storms per year on average whilst the Midlands,

2.4 ANNUAL RAINFALL, TASMANIA (mm)

Station	1989	1990	1991	Long-term average (a)
Bicheno	723	572	633	688
Burnie	1 215	810	1 004	997
Bushy Park	439	575	595	582
Butlers Gorge	1 117	1 709	1 738	1 677
Campbell Town	480	501	487	544
Devonport	1 033	774	963	901
Glenorchy	574	717	704	717
Hobart Airport	469	473	440	522
Hobart Bureau	492	621	571	626
Launceston Airport	615	588	618	695
Launceston	742	648	645	685
Maydena	778	1 184	1 201	1 208
Oatlands	492	539	478	561
Queenstown	2 012	2 398	2 702	2 519
Scottsdale	1 186	871	1 079	1 077
Southport	782	917	975	988
Smithton	1 111	992	1 184	1 104
Strahan	1 542	1 896	1 338	1 647
Strathgordon	1 717	2 495	2 698	2 489
St Helens	865	549	743	784
Swansea	564	425	434	611
Waddamana	603	874	795	813

(a) Number of years of record used to calculate the long-term average varies from station to station.

as gauged from Oatlands, has fewer than three. Severe thunderstorms are more likely during the period November to March and may produce isolated instances of flash flooding or large hail. Tornadoes are rare, most occurring in the central north.

2.4.5 Floods

In Tasmania, floods tend to be seasonal, being more frequent in winter when catchments are saturated, than in summer. The major rivers in the Tamar River basin: the South Esk, Macquarie, Meander and the North Esk Rivers, converge in the north of the state near Launceston, where the combined catchment area is nearly 9000 square kilometres. Many rivers in this system flow through flat country and consequently floods can be widespread and disruptive. Launceston and Longford, the two major urban areas in the basin and many small rural townships are affected by major floods such as those which occurred in 1929 and 1969.

The Derwent River, with a catchment area of 7750 square kilometres at New Norfolk, drains the central part of the State. Minor floods do not occur with the same regularity as in the South Esk due to the Hydro-Electric Commission's storages, but these have little effect during major floods such as the one which flooded New Norfolk in 1960.

The Huon River, which has a catchment area of 2100 square kilometres at Judbury, rises very quickly during floods. Major floods, the most recent of which was in 1975, affect the main township of Huonville in the catchment.

Although heavily regulated by the Hydro-Electric Commission power generation schemes and the Forth and Mersey Rivers (with catch-

ment areas of 1100 and 1600 square kilometres respectively), major flooding is still possible. The most recent major flood in 1970 affected urban areas in the catchments.

Many of the smaller rivers in the north and north-west of the State have their headwaters in the Western Tiers and are subject to flash flooding. The short, fast-flowing rivers of the north-east and east of the State rise and fall rapidly but can be quite damaging. Flooding of rivers in the west and south of the State goes largely unnoticed because they pass through rugged, sparsely populated regions.

2.4.6 Humidity and Evaporation

The mean relative humidity at both 9 a.m. and 3 p.m. exceeds 50 per cent at all stations in all months of the year. Relative humidity is generally higher in the morning than in the afternoon, and higher in coastal areas than inland. Days of high temperature combined with uncomfortably high humidity are rare. In the east, south-east and Fingal Valley, warm dry winds from a westerly or north-westerly direction may occasionally have a relative humidity as low as 10 per cent. These type of winds invariably result from air descending from just above mountainous terrain into lowland valleys or plains.

Evaporation depends mainly on wind strength, the moisture deficit of the airstream and on sunshine.

In the northern Midlands the annual evaporation is nearly 1500 mm due largely to the prevalence of winds coming from the Western Tiers, which become warmer and drier in their descent, thus increasing evaporation. Monthly evaporation at Launceston Airport has ranged as high as 270 mm in summer but drops to be-

2.5 CAPITAL CITIES CLIMATIC AVERAGES

	<i>Hobart</i>	<i>Melbourne</i>	<i>Sydney</i>	<i>Brisbane</i>	<i>Darwin</i>	<i>Adelaide</i>	<i>Canberra</i>	<i>Perth</i>
Temperature (°C) -								
Mean daily maximum	16.8	19.7	21.5	25.5	31.9	22.1	19.4	23.3
Mean daily minimum	8.2	10.0	13.6	15.7	23.2	12.0	6.3	13.1
Extreme maximum	40.8	45.6	45.3	43.2	38.9	47.6	42.2	46.2
Extreme minimum	-2.8	-2.7	2.1	2.3	10.4	0.0	-10.0	1.6
Mean daily hours of sunshine	5.8	5.5	6.7	7.5	8.5	6.9	7.2	8.1
Rainfall -								
Mean annual (mm)	626	659	1 226	1 150	1 814	552	629	870
Mean annual days of rain	159	147	137	120	111	121	108	119
Wind - Average (km/hr)	11.6	10.8	12.9	10.3	9.2	12.5	5.8	12.5

tween 25 mm and 40 mm in winter. This area of high evaporation extends southward to the lower Derwent and Huon areas. The lowest evaporation rate occurs in the Central Plateau, West Coast Ranges and Southwest area, where annual evaporation may fall to less than 750 mm. This is due to the high moisture content of the prevailing westerlies and the high average cloud cover. In these areas the monthly evaporation rate may range from about 125 mm in January to only 12 mm in June and July. Another area of low evaporation (below 1000 mm per year) is located in the north-eastern highlands.

2.4.7. Droughts and Bushfires

Although Tasmania has the highest average annual rainfall of any state in Australia, drought conditions are not unknown. Unlike the remainder of Australia, droughts in this State tend to be localised and of relatively short duration and are related to peoples' expectations of normal rainfall. The most severe effects are usually felt over a period of only a few months, but serious rainfall deficiencies can extend over a period of two or three years. The most severe long-term droughts occurred during the periods 1888-89, 1897-98, 1918-20, 1933-34, 1945-46, 1949-52, 1967-69, 1972-73, 1979-82 and 1987-88.

Serious bushfires occurred in 1897-98, 1914, 1934, 1940, 1967 and 1981. The bushfires of

7 February 1967 were the most severe in the State's history, causing 62 deaths and damage to property estimated at the time to be in excess of \$25 million. The worst fires on the West Coast occurred during February 1981 when fuels were exceptionally dry for that district. Property damage around Zeehan was estimated to be near \$5 million.

2.4.8 Sunshine

The average number of hours a year of sunshine ranges from about 2500 hours in the northern Midlands to less than 1750 hours on the West Coast and western highlands; these areas having the least amount of sunshine in Australia. Hobart averages 2100 hours per year and Launceston around 2400.

In January, the daily average of sunshine ranges from nine hours per day between the Midlands and Launceston to six hours per day on the west and south coasts. In mid-winter, average daily sunshine is down to a maximum of four hours on the east coast and considerably less on the west coast and highlands.

2.4.9 Hobart's Climate

Hobart is not the wettest Australian capital city; in fact it has the lowest mean annual rainfall of all capitals except Adelaide.

2.7 HOBART CLIMATIC DATA

Month	Temperature (°C)								Sunshine (Daily hours)		Rainfall (mm)	
	Maxima				Minima				Long-term average (a)	Mean 1991	Long-term average (a)	Total 1991
	Long-term (a)	Mean 1991	Extreme (a)	Extreme 1991	Long-term (a)	Mean 1991	Extreme (a)	Extreme 1991				
January	21.5	22.8	40.8	39.6	11.7	12.8	4.5	8.1	7.9	8.3	48	69
February	21.6	21.7	40.2	34.0	11.9	11.1	3.4	7.0	7.2	8.6	40	15
March	20.1	19.9	37.3	35.6	10.7	10.1	1.8	5.6	6.3	6.3	47	49
April	17.2	16.9	30.6	22.7	8.9	8.8	0.6	4.1	5.1	5.3	52	24
May	14.3	15.1	25.5	18.9	6.9	7.3	-1.6	3.8	4.2	4.9	49	5
June	11.9	13.8	20.6	18.0	5.2	7.0	-2.8	3.0	3.9	3.9	56	42
July	11.5	12.2	21.0	15.1	4.5	5.8	-2.8	0.0	4.4	4.4	54	31
August	12.9	12.5	24.5	17.4	5.1	5.0	-1.8	0.6	5.0	5.3	52	103
September	15.0	15.1	31.0	20.0	6.3	6.5	-0.6	2.1	5.9	6.4	52	41
October	16.9	18.4	34.6	29.1	7.7	8.5	0.0	3.7	6.4	8.1	64	63
November	18.5	18.4	36.8	33.6	9.1	9.1	1.6	3.7	6.9	7.1	55	43
December	20.2	19.4	40.7	26.5	10.7	11.2	3.3	6.9	7.3	6.1	57	86
Annual	16.8	17.2	40.8	39.6	8.2	8.6	-2.8	0.0	5.9	6.2	626	571

(a) Figures taken over all periods of records.

Temperatures: Mean maximum temperature exceeds 21°C in January and February. On average there are two or three days per year with maximum temperatures greater than 32°C. Minimum temperatures below -1°C are rare.

Rainfall: There is a strong gradient of rainfall to the immediate west of Hobart caused by the bulk of Mt Wellington. On the south-eastern slopes of the mountain the annual rainfall reaches 1400 mm (at The Springs and The Gap) while at Fern Tree the annual average is 1140 mm. The rainfall decreases to about 600 mm in the city area, the annual average being 626 mm at the Regional Office of the Bureau of Meteorology. Some eastern shore suburbs receive as little as 500 mm of rain per annum.

Monthly totals are fairly uniform. The wettest 12 months on record at the Bureau's Hobart Office yielded 1104 mm (to December 1916) and the driest, 320 mm (to November 1943).

Fog: Fogs occur in the city about six times per year in the cooler months but are more frequent over and near the Derwent River, down which they are often carried on a light north-west wind. Fog frequency is far less than that for either Launceston or Melbourne.

Wind: The main wind direction is north-west, induced by the orientation of the Derwent Valley. Next in importance is the sea-breeze (from south or south-east) during summer months. The strongest wind gust experienced in Hobart was 150 km/hr recorded during a storm in September 1965.

Snow and Hail: Snow below 300 metres occurs, on the average, less than once per year. Falls lying in the centre of the city, almost at sea level, have occasionally been recorded. Snow generally lies on Mt Wellington during winter and early spring months, but it is rare between November and March. Hail occurs about four times a year mainly between September and November.

Frost: The average annual frequency of days of frost is 28, mostly from June to August. Cold air drainage is found in the hilly suburbs and frosts are common on the valley floors.

Sunshine and Cloud: No marked seasonal or diurnal variation of cloud amount occurs. However, there is a clear-cut seasonal variation in monthly average hours of sunshine with variations of 235 hours in January to 112 hours in June.

2.4.10 Monthly Weather Review, 1991

January: Monthly rainfall totals were close to average in the south-western half of the State and above, to well above, average in the remainder. Temperatures were slightly above average along the east and south-east coasts during the day, and over almost all of the north-eastern half of the State overnight. On 3 January several new record high January daily maximum temperatures were established in the State.

February: Record or near record low monthly rainfall totals and below average mean daily temperatures throughout most of the State were the major characteristics of February's weather. Several significant bushfires occurred across the State, including on King Island.

March: Rainfall improved during March with most of the State receiving near average or above average monthly totals. Temperatures were cooler than average which to some extent continued the trend set in February, especially in the western half of the State.

April: A pronounced westerly airflow, apparent towards the end of March, continued to control much of Tasmania's weather during April. This situation produced near average rainfall totals about most of the western half of the State, but below average rainfall in the remainder. Temperatures throughout tended to be below the long term averages for the month.

May: The strength of the zonal westerly airflow declined during the first half of the month and gave way to a more meridional circulation pattern which persisted until the end of the month. The resultant rainfall in many areas of Tasmania was amongst the lowest on record with several centres in the north, east and south-east registering totals for the month of less than 10 mm. Temperatures were mostly near normal.

June: In contrast to the previous month, rainfall during June was average or above average, and record monthly totals were registered at some stations in the north and west. Mean daily temperatures were also average or above and several new temperature records were set in the State.

July: Near average rainfall totals were recorded throughout the State during July while temperatures, although initially continuing the above-average trend set in June, fell during the last week of the month to values which were well below the long term daily means.

August: Although most of the State received rainfall which was well above the long-term average for August, some parts of the east coast, Midlands and south-east registered totals which were nearer to their long-term averages. New record August rainfall totals were set at some stations in the north-west, west coast and Flinders Island. Wind gusts in excess of 100 km/h, associated with the passage of a cold front, damaged public buildings and unroofed about 20 houses in the Burnie area on the 5th. Another wind-storm with gusts to 135 km/h disrupted power and caused structural damage to buildings on King Island on the 13th.

September: Rainfall and temperatures were close to average throughout most of the State. Several hailstorms affected the northern part of the State during the month. Hailstones, some as large as golf balls, were observed in the Launceston suburb of Trevallyn on the 11th, and on the 19th another storm swept along the Bass Highway between Deloraine and Westbury blanketing the area with hail before crossing the Tamar River. On the 29th strong winds with gusts near 100 km/h damaged houses in Hobart and caused a number of boats to drag or break their moorings in the Cygnet and Dunalley areas.

October: Although westerlies dominated the weather pattern for most of the month the resulting rainfall distribution was somewhat unusual with most totals being well below average in the northern half, but close to average in the remainder. Temperatures were generally slightly above the long-term average.

November: A series of low pressure systems which moved across Tasmania in a southeasterly direction produced above average rainfall in the western half of the State and average rainfall in the remainder. Maximum temperatures were generally within one degree of average. A November record maximum temperature of 31°C was set at Scottsdale, exceeding the previous value by 1.6°C.

December: The first half of the month was marked by a number of anticyclones which moved rapidly past the State. In the latter half of the month Tasmania's weather was influenced by a series of low pressure systems, one of which produced heavy rain which flooded areas of Launceston on the 19th. During this event unofficial reports indicated that 11 mm of rain fell in 10 minutes at Invermay and 25 mm in 40 minutes at the Town Hall.

2.5 ENVIRONMENTAL MANAGEMENT

(The following is based on information supplied by the Tasmanian Department of Environment & Planning.)

Tasmania's 'natural environment' extends above, below and beyond the State's landmass boundaries to the ozone layer 25 kilometres above; below, to the bottom of the deepest water tables; as far as noise carries as well as beyond the low-water mark as far as the coast of Victoria and the continental shelf. It also includes every plant and animal as well as the State's non-living resources. The State's works, its buildings and other structures, form its 'touched environment' and the way of life of its society forms its 'cultural environment'.

Changes, which started with the coming of the Aborigines and accelerated rapidly with European settlement, namely, large scale clearing of land for agriculture, extensive grazing, forestry, mining and settlements have extended human impact to almost every part of the State.

The quality of the Tasmanian environment has profound effects upon the good health and well-being of all Tasmanians. Two substantial sectors of the Tasmanian economy, agriculture and tourism, rely on a high quality of natural environment. The future of Tasmania's society and its economy will be increasingly dependent upon the quality of its natural environment.

An important factor in determining the effect of our activities on the environment is the specific nature of the receiving environment. Tasmania is a mountainous island and is dominated by westerly winds. Despite these prevalent winds, inversion layers frequently form in the valley regions of the State, including the Derwent and Tamar valleys, and influence dispersion of air pollutants.

In the mining areas of the west, average annual rainfall of 2000 - 2600 mm is common and mining districts in the north-east of the State also experience high rainfall. This has a significant influence on water pollution problems arising from the mining operations in those areas.

Marine currents and sedimentary drift around the Tasmanian coast are strongly influenced by the big swell which almost continuously approaches the island from the south-west. Diffraction of this swell in Bass Strait, combined with the effect of prevalent north-westerly winds, produces a distinct on-shore movement along the north coast with consequent impairment of dispersion of any effluents discharged into this coastal region.

The State's population is becoming increasingly urbanised and this, combined with rising per capita consumption and industry, will inevitably raise living standards and this process will require greater control of community and industrial waste disposal.

2.5.1 Pollution Control

Recent Legislation

The *Environment Protection (Sea Dumping) Act 1987* gives effect to the provisions of the London Dumping Convention in relation to the waters of Tasmania by regulating, among other matters, the dumping into the sea, and the incineration at sea, of wastes as well as the dumping into the sea of certain other objects capable and likely to cause pollution. It makes provision for the granting of permits for the disposal of wastes at sea provided environmental requirements are satisfied.

The *Pollution of Waters by Oil and Noxious Substances Act 1987* gives effect to Annex 1 (Oil pollution) and Annex 2 (Noxious Liquid Substances Carried in Bulk) of the *International Convention for the Prevention of Pollution from Ships 1973-78*. Where an oil spill occurs and a response plan is devised, the Minister for Environment and Planning is able to make certain declarations which permit the State to incur clean-up costs. These costs would subsequently

be recovered from the polluter or, if this is not possible, through the National Plan for combat of oil spills.

The *Chlorofluorocarbons and Other Ozone Depleting Substances Control Act 1988* imposes strict controls on chemicals which are known to have a major impact on ozone depletion. The chemicals which are controlled under this legislation are chlorofluorocarbon 11 (CFC11), CFC12, CFC113, CFC114, CFC115, HCFC22, Halon 1211, Halon 1301, Halon 2402 and methyl chloroform. It was the first Act of its kind in Australia and one of the first in the world.

Pollution Incidents

During 1990-91, 1236 telephone inquiries were received by the Department of Environment and Planning, as well as a number of written complaints. Of these, 970 were public complaints, 112 were Incident Reports, and 154 were inquiries about hazardous waste disposal.

Complaints were also received concerning primary industry (industries such as food processors, fish farms, poultry, mills and abattoirs), and light industry (industries such as laundrettes, mixed businesses and small factories).

Complaints about local councils were generally related to discharges or odours from sewage treatment plants or waste disposal sites. Complaints about vehicles, which refer to all cars and trucks, generally concerned exhaust system noise and air pollution in about equal numbers.

2.5.2 Environmental Planning

Environmental Impact Assessment

During 1990-91, changes in assessment procedures were brought about by amendments to the *Environment Protection Act 1973* contained in the *Revenue Measures Legislation (Miscellaneous Amendment) Act 1990*. These changes involved:

- the introduction of fees for the assessment of licence applications;
- the introduction of the option of registering, rather than licensing, small developments; and
- changes to the schedule in the Act which determines the nature and size of developments which require a licence.

Ozone Monitoring

The Bureau of Meteorology operates the national ozone monitoring network and recent data indicate a small decrease in stratospheric ozone over Australia during the past 10 years. The Bureau continues to play a key role in international monitoring arrangements and provides the basis for advice to government and general information to community interests.

Baseline Air Pollution Station

The Baseline Air Pollution station at Cape Grim in Tasmania provides the focus for Australia's participation in the World Meteorological Organisation's Background Air Pollution Monitoring Network (BAPMON). The station is funded and managed by the Bureau of Meteorology and its scientific program is supervised jointly by the Bureau and CSIRO.

Registration has, effectively, introduced another level of assessment. The first decision which must now be made is whether to register or licence a premises. Registration involves a simpler set of procedures and is applied to developments which are not likely to pose an on-going environmental risk. After initial assessment it is not expected that registered premises will be subject to regular inspection or monitoring.

Licence Applications for Scheduled Premises

Scheduled premises are those defined in the *Environment Protection Act* as requiring a licence to operate from the Director of Environmental Control. All applications for licences, or variations to existing licences, are subject to environmental impact assessment.

Non-scheduled Premises

The Department is requested to comment on, or carry out assessments on, a wide variety and number of non-scheduled developments. As there is no formal basis for the assessment of non-scheduled developments, there is no clear-cut distinction between developments forwarded for comment and those which might be considered as formal assessments. Thus the assessment procedure followed is essentially the same.

Ministerial Exemptions

The *Environment Protection Act*, through sections 15, 16 and 17 prohibits the emission of pollutants into the air, water or onto the land, from both fixed and moving sources. The Act provides for the Minister for Environment and Planning to exempt a person from the need to comply with these provisions. It is Government policy that no new exemptions will be granted under these sections and that all existing exemptions will be reviewed annually and may

only remain valid until 30 June 1994. The number of Ministerial exemptions as at 30 June 1989 was 53, compared to 47 exemptions as at 30 June 1990.

Performance Improvement Program

All operators of industrial and municipal facilities which hold a ministerial exemption under the above sections of the *Environment Protection Act* are required to participate in the Performance Improvement Program. This requires that a program of upgrading works is undertaken in a time frame to eliminate the need for the exemption and as such to bring the facility emissions into compliance with the Act. The operators participating in the program were outlined in the 1988-89 annual report for the Department of Environment.

Individual Premises Review

The larger industrial and municipal facilities in the State are required to prepare an Environmental Management Plan (EMP) for their operations. The EMP contains details of the production process, plant emissions, pollution controls and self-monitoring programs and becomes a major operating licence condition for the facility.

Industry Group Review Program

This program reviews specific industry groups statewide through site inspections, preparation of environmental status reports and, where appropriate, the production of environmental management handbooks. The industry groups reviewed during 1989-90 were sawmilling and timber processing, the poultry industry and the quarrying industry.

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Chapter 3

GOVERNMENT AND ADMINISTRATION

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Chapter 3

GOVERNMENT AND ADMINISTRATION

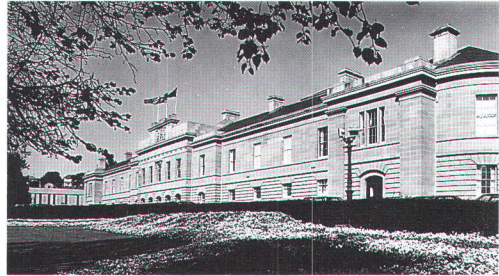
Since 1 January 1901, Australia has been a federation of six States. In 1911 two territories, the Australian Capital Territory and the Northern Territory, were transferred to the Commonwealth from New South Wales and South Australia.

Government is exercised in three jurisdictions:

- Commonwealth Government, with powers derived from a written constitution and centred in Canberra, the national capital;
- State Government with residual powers (powers not reserved for the Commonwealth) which in Tasmania is centred in Hobart; and
- Local Government with authority derived from State acts.

The main responsibilities of the Commonwealth Government are:

Foreign affairs and diplomatic representation; maintenance of the armed forces; customs and excise; posts and telegraphs; control of broadcasting and television; control of civil aviation; repatriation of ex-servicemen; immigration; industrial arbitration for national industries; control of coinage and currency; overseas trade promotions; employment service; pensions; national health benefits; federal territories and overseas dependencies; census and statistics; meteorological service; federal courts and police; control of banking; collection of sales and income taxes; housing assistance and defence service homes; scientific and industrial research; management of State and national debt; light-houses and navigation.



State Parliament House.

Photo: Tasphoto Services

The Tasmanian Government provides the greater number of community services including, transport, education, health, community welfare, housing, consumer affairs, forestry, fisheries, fire, police, emergency, agricultural and farming services. The Tasmanian Government is also responsible for prisons, courts, libraries, probation, racing and gaming, and labour and industry.

Local Government is mainly responsible for the maintenance of: parks; recreational and sporting facilities; roads and cemeteries; and provides town planning, sewerage, water, waste disposal and public health services.

During the two years to September 1991 the main Tasmanian political event was a Royal Commission conducted by Mr William Carter into the attempted bribery of Labor MHA, James Cox in June 1989 following the State election held on 13 May 1989.

3.1 COMMONWEALTH GOVERNMENT

Legislative power of the Commonwealth is vested in the Commonwealth Parliament which consists of the Sovereign, Queen Elizabeth II (represented by the Governor-General), the Senate and the House of Representatives. The Queen's status is set out by the *Australia Act 1986*.

3.1.1 The Governor-General

Under the Commonwealth Constitution, ultimate executive power is vested in the Crown and is exercised by the Governor-General as the direct representative of the Sovereign. The present Governor-General is His Excellency the Honourable William George Hayden, AC, who was sworn in on 16 February 1989.

3.1.2 Commonwealth Parliament

The Senate

Since 1984 each State has been represented by 12 senators and, in addition, the Australian Capital Territory and the Northern Territory have been represented by two senators each since the election of 13 December 1975. Each senator's term is normally six years, as half the senate seats come up for election every three years. However, in the case of a double dissolution of both Houses, half the senators are elected

for a six-year term (the first six elected in each State) and half for a three-year term.

In Senate elections each State is an electorate. Electors are required to cast a vote for every candidate standing within the State in order of their preference or for a Party or group. Election of members is carried out in accordance with the principles of proportional representation by the single transferable vote.

If a vacancy occurs in the Senate, the appropriate State Government, usually by a joint sitting of parliament, nominates a replacement, of the same political affiliation, who sits for the remainder of the term.

The House of Representatives

The founders of the parliamentary system, when designing the House of Representatives, envisaged a legislative body representing the national interest. The party holding a majority of seats in the House of Representatives, therefore controlling the House, provides the Government. The federal election of March 1990 returned the Labor Government under the leadership of Prime Minister Robert Hawke for a fourth term.

Australia is divided into 148 single-member electorates of which five must be Tasmanian. All five Tasmanian seats were held by the Liberal Party from November 1975 until July 1987 when Duncan Kerr (ALP) replaced Michael Hodgman in Denison.

3.1 TASMANIAN SENATORS, SEPTEMBER 1991

<i>Senator</i>	<i>Office address</i>	<i>Party affiliation</i>	<i>Year of retirement</i>
Archer, B.R.	111 Wilson Street, Burnie, 7320	Liberal	1993
Aulich, T.	87 George Street, Launceston, 7250	ALP	1993
Bell, R.	371 Elizabeth Street, North Hobart, 7000	Aust. Democrats	1996
Calvert, P.H.	3 Brooke Street, Hobart, 7000	Liberal	1996
Coates, J.	16 Victoria Street, Hobart, 7000	ALP	1993
Devereux, J.R.	14 Rosny Hill Road, Rosny Park, 7018	ALP	1996
Harradine, R.W.B.	Marine Board Building, 1 Franklin Wharf, Hobart, 7000	Independent	1993
Newman, J.N.	11 Elphin Road, Launceston, 7250	Liberal	1996
Sherry, N.J.	59 Best Street, Devonport, 7310	ALP	1996
Tate, Hon. M.C.	Marine Board Building, 1 Franklin Wharf, Hobart, 7000	ALP	1993
Walters, M.S.	Marine Board Building, 1 Franklin Wharf, Hobart, 7000	Liberal	1993
Watson, J.O.W.	46 St John Street, Launceston, 7250	Liberal	1996

3.2 TASMANIAN MEMBERS OF THE HOUSE OF REPRESENTATIVES

<i>Member</i>	<i>Office address</i>	<i>Party affiliation</i>	<i>Electorate</i>
Burr, M.A.	Cnr Brisbane and George Streets, Launceston, 7250	Liberal	Lyons
Goodluck, B.J.	Marine Board Building, 1 Franklin Wharf, Hobart, 7000	Liberal	Franklin
Kerr, D.J.C.	115 Collins Street, Hobart, 7000	ALP	Denison
Miles, C.G.	TGIO Building, 75 Wilson Street, Burnie, 7320	Liberal	Braddon
Smith, W.L.	65 Cameron Street, Launceston, 7250	Liberal	Bass

Election of members is carried out in accordance with the principles of the absolute majority through use of preference voting. If a vacancy occurs, it is filled by holding a by-election. Elections must be held at least every three years.

In the Senate the Liberal Party won three seats, the ALP won two seats and the other seat went to the Australian Democrats.

3.2 TASMANIAN GOVERNMENT

3.3 HOUSE OF REPRESENTATIVES MEMBERSHIP BY STATE

New South Wales	51
Victoria	38
Queensland	24
South Australia	13
Western Australia	14
Tasmania	5
Northern Territory	1
Australian Capital Territory	2
Total	148

Representation in the House of Representatives is based upon the general principle of having, as nearly as practicable, electorates with equal numbers of electors. This is provided by regular electoral redistributions undertaken by an independent Electoral Commission.

1990 House of Representatives and Senate Election

On 16 February 1990 the Prime Minister announced an election for the House of Representatives and the Senate for 24 March.

The election resulted in the Labor Party retaining Denison with the Liberal Party retaining the other four Tasmanian seats.

3.2.1 Historical Summary

In its short history, Tasmania has experienced several forms of government; beginning with autocratic rule, it graduated to responsible self-government as a British colony and finally surrendered some sovereign powers to take its place as an original Australian State.

The evolution of the system of bi-cameral responsible government within a federal system falls into five distinct phases:

1803-1825: The island was part of the colony of New South Wales and its lieutenant-governors and commandants were subordinate to the Governor in Sydney.

1825-1851: On 14 July 1825, Van Diemen's Land was created a separate colony with a Lieutenant-Governor directly responsible to the Secretary of State in London. A nominated Legislative Council was established.

1851-1856: The passage of the *Australian Constitution Act 1850* by the Parliament in London was followed by the establishment of a new Legislative Council in which 16 members were elected and eight were nominees of the Lieutenant-Governor. The newly constituted Council first sat on 1 January 1852.

1856-1901: By the *Constitution Act 1854*, two houses of parliament, the House of Assembly and the Legislative Council were established, both houses being elected. The first Parliament sat on 2 December 1856 (the first year in which the island was officially called Tasmania); representatives of the Crown carried the title of Governor.

1901: The Tasmanian Constitution was limited by the establishment of the Commonwealth Constitution. In effect, the Parliament of Tasmania may make laws operative within the State upon all matters not within the exclusive power of the Australian Parliament but, on those matters for which the Australian Government may also legislate, the Tasmanian law may be superseded by the passing of an act by the Commonwealth Parliament.

Tasmania's legislature consists of the Queen, represented by the Governor, and two houses of parliament, the Legislative Council (upper house) and the House of Assembly (lower house).

3.2.2 The Governor

The Governor of Tasmania is the representative of the Sovereign in the State and exercises the powers of the Crown in State matters. The

Queen appoints the Governor on the advice of the Premier, generally for a five-year term. Powers and duties of the Governor are similar to those of the Governor-General and were gazetted/issued in March 1986.

On all official State occasions, he performs the ceremonial functions as the representative of the Queen. The Governor summons and terminates parliament; in special circumstances he may dissolve it after considering the advice of his Premier. Bills which have passed all stages in parliament are submitted to the Governor for his assent. He opens each session of Parliament by outlining the legislative program of the government, but takes no other part in the sittings of either House.

His executive powers include the appointment of ministers of the Crown, judges and other important State officers but not those whose appointments may be made by certain statutory corporations. By appointing ministers of the Crown, the Governor creates the Executive Council of the day and he is required by his instructions to be guided by the advice of this body. Should he feel it necessary to act against the advice of the Executive Council, he may do so, but the reasons for such action must be immediately reported to the Queen.

3.4 SUCCESSION OF GOVERNORS, ACTING GOVERNORS, ADMINISTRATORS, FROM 1924

Name	Designation	Term of office	
		From	To
Sir James O'Grady, KCMG	Governor	23.12.24	23.12.30
Hon. Sir Herbert Nicholls, KCMG	Lieutenant-Governor	23.12.30	4. 8.33
Sir Ernest Clark, KCB, KCMG, CBE	Governor	4. 8.33	4. 8.45
Hon. Sir John Morris	Administrator	4. 8.45	24.12.45
Admiral Sir Hugh Binney, KCB, KCMG, DSO	Governor	24.12.45	8. 5.51
Hon. Sir John Morris, KCMG	Administrator	8. 5.51	22. 8.51
Rt. Hon. Sir Ronald Cross, Bart, KCMG, KCVO	Governor	22. 8.51	4. 6.58
Hon. Sir Stanley Burbury, KBE	Administrator	4. 6.58	21.10.59
Rt. Hon. Lord Rowallan, KT, KBE, MC, TD	Governor	21.10.59	25. 3.63
Hon. Sir Stanley Burbury, KBE	Administrator	25. 3.63	24. 9.63
Lt-General Sir Charles Gairdner, GBE, KCMG, KCVO, CB	Governor	24. 9.63	11. 7.68
Hon. Sir Stanley Burbury, KBE	Administrator	11. 7.68	2.12.68
Lt-General Sir Edric Bastyan, KCMG, KCVO, KBE, CB	Governor	2.12.68	30.11.73
Hon. Mr Justice Green	Administrator	30.11.73	5.12.73
Hon. Sir Stanley Burbury, KCMG, KCVO, KBE	Governor	5.12.73	30. 9.82
Hon. Sir Guy Green, KBE	Lieutenant-Governor	1. 4.82	30. 9.82
Sir James Plimsoll, AC, CBE	Governor	1.10.82	8. 5.87
Hon. Sir Guy Green, KBE	Lieutenant-Governor	9. 5.87	18.10.87
General Sir Phillip Bennett, AC, KBE, DSO	Governor	19.10.87	

Governor of Tasmania

Tasmania's present Governor is H.E. General Sir Phillip Harvey Bennett, AC, KBE, DSO who was sworn in as Tasmania's 30th Governor on 19 October 1987. He was born in Perth, Western Australia, on 27 December 1928 and started his military career at the Royal Military College Duntroon. On 13 April 1984 he was promoted to General and



Photo:
Government House

appointed Chief of the Defence Force. He was awarded the Distinguished Service Order for service in Vietnam in 1968-69 and is a companion of the Order of Australia and Knight Commander of the Order of the British Empire.

3.2.3 The Cabinet and Executive Government

In Tasmania, as in the other States and the Commonwealth, executive government is based on the system which was evolved in Britain in the 18th century, and which is generally known as 'Cabinet', or 'responsible' government. Its essence is that the head of the State (in Tasmania, the Governor) should perform governmental acts on the advice of his ministers; that he should choose his ministers of State from members of parliament belonging to the party, or coalition of parties, commanding a majority in the popular House; that the ministry, the Cabinet, so chosen should be collectively responsible to that House for the government of the country and that the ministry should resign or advise an election if it ceases to command a majority there.

The Cabinet system operates chiefly by means of constitutional conventions, customs or understandings, and through institutions that do not form part of the legal structure of government. In law, the executive power of the State is exercised by the Governor who is advised by the Executive Council which he himself has appointed.

Premiers

The present Premier of Tasmania is The Honourable Ray Groom, who took up office in February 1992 after his party won the State election called by the previous minority Labor Premier, Mr Michael Field.

Before entering politics Mr Groom had a successful career as an Australian Rules footballer with VFL club Melbourne.

He was first elected to Federal Parliament as the member for Braddon in 1975, which seat he held until he resigned from national politics in 1984.

In the Fraser government he had several junior portfolios, serving as minister for the environment, minister for housing and community development and as minister for employment and industrial relations.

After resigning from Federal Parliament Mr Groom moved to Hobart with his family and became a senior adviser to the then Premier Mr Robin Gray.

In 1986 he was elected to the seat of Denison in the State Parliament, and was given responsibility for the portfolios of forests, mines and sea fisheries.

3.5 PREMIERS FROM 1939

Name of Premier	Term of office	
	From	To
A.G. Ogilvie (a)	22. 6.34	10. 6.39
E. Dwyer-Gray	11. 6.39	18.12.39
R. Cosgrove	18.12.39	18.12.47
E. Brooker	18.12.47	25. 2.48
R. Cosgrove	25. 2.48	26. 8.58
E.E. Reece	26. 8.58	26. 5.69
W.A. Bethune	26. 5.69	3. 5.72
E.E. Reece	3. 5.72	31. 3.75
W.A. Neilson	31. 3.75	1. 12.77
D.A. Lowe	1.12.77	11.11.81
H.N. Holgate	11.11.81	26. 5.82
R.T. Gray	26. 5.82	29. 6.89
M.W. Field	29. 6.89	17. 2.92
R.J. Groom	17. 2.92.	

(a) Tasmania had an unbroken succession of Labor premiers, starting with the Ogilvie Ministry (1934) until the electoral defeat of the Reece government on 26 May 1969.

He was elected Deputy Premier in 1988, and successfully unseated the leader of the opposition Robin Gray at his second attempt in December 1991.

He became State Premier in February 1992, after leading the Liberal Party to a 'landslide' victory

3.2.4 The House of Assembly

The Tasmanian Lower House comprises 35 members elected for a term of four years from five seven-member electorates.

Death of a Statesman

Tasmania lost one of its greatest politicians when Roy Fagan, former Labor Deputy Premier, died in 1990. Born at Waratah, he was educated at Waratah State School, St Virgils College and the University of Tasmania where he graduated in law and arts.

Roy Fagan was a practising barrister before entering politics as a member for Wilmot (now Lyons) in 1946. He held the position of Attorney-General before becoming Eric Reece's deputy in 1958, a position he held until 1972 when the ALP returned to government after briefly being in opposition. As Minister for Industrial Development in the 1960s and early 70s he was largely responsible for large-scale resource-based industrial development, using hydro power to establish export industries for the State. He believed in the need for the population of Tasmania to grow so that its industrial development might expand and lower the

State's high unemployment rate. Roy Fagan believed his most satisfying achievement in his 28 years in the House was the abolition of capital punishment.



Photo: The Mercury

Electoral System

Tasmania uses proportional representation known as the Hare-Clark system in elections for the Assembly.

- Party groups, if officially registered, are identified on ballot papers.
- Candidates' positions within groups are rotated so that in 'preferred' positions all candidates appear on the same number of ballot papers.
- A valid vote must show at least seven preferences.
- To secure election, candidates must gain a quota—the total first preference votes divided by eight, plus one vote.
- On polling day, no media advertising and no soliciting of votes near the polling booth is permitted.
- The constituencies are the same five divisions used for House of Representatives elections.
- There are no by-elections; a vacant seat is filled by a count-back of the vote at the last election.

1992 State Election

The May 1989 poll had resulted in the election of 17 Liberals, 13 Labor and a record 5 Independents.

3.6 1992 PARTY DISTRIBUTION OF VOTES IN ELECTORATES (%)

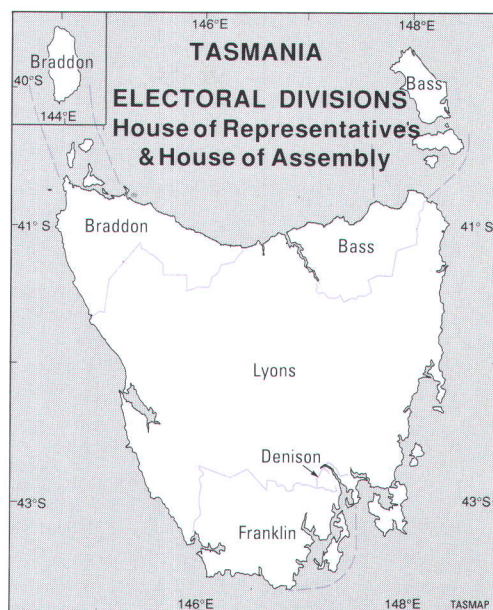
<i>Elect- orate</i>	<i>Australian Labor Party</i>	<i>Liberal Party</i>	<i>Green Independents</i>
Bass	28.70	53.77	10.50
Braddon	20.11	63.72	8.19
Denison	32.46	42.39	16.84
Franklin	32.74	44.61	14.86
Lyons	26.19	55.83	11.48
Tasmania	27.97	52.20	12.32

3.7 MEMBERS OF THE HOUSE OF ASSEMBLY AS AT FEBRUARY 1992

<i>Electoral division</i>	<i>Member's name</i>	<i>Party affiliation</i>
Bass	Armstrong, L.J.E.	Green Ind.
	Benneworth, A.J.	Liberal
	Beswick, The Hon. R.J.	Liberal
	James, G.H.	ALP
	Madill, The Hon. F.L.	Liberal
	Napier, S.D.	Liberal
Braddon	Patmore, The Hon. P.J.	ALP
	Bonde, W.B.	Liberal
	Cains, C.S.	Liberal
	Cornish, The Hon. R.	Liberal
	Field, The Hon. M.W.	ALP
	Groom, The Hon. F.R.	Liberal
Denison	Hollister, D.L.	Green Ind.
	Rundle, The Hon. A.M.	Liberal
	Amos, J.J.	ALP
	Barker, J.S.	Liberal
	Brown, R.J.	Green Ind.
	Groom, The Hon. R.J.	Liberal
Franklin	Hodgman, The Hon. W.M.	Liberal
	Jackson, The Hon. J.L.	ALP
	White, The Hon. J.C.	ALP
	Aird, The Hon. M.A.	ALP
	Bates, G.M.	Green Ind.
	Bladel, The Hon. F.M.	ALP
Lyons	Cleary, The Hon. T.J.	Liberal
	Davison, B.F.	Liberal
	Hodgman, The Hon. P.C.L.	Liberal
	Lennon, P.A.	ALP
	Braid, The Hon. I.M.	Liberal
	Gray, The Hon. R.T.	Liberal
	Llewellyn, D.E.	ALP
	Mainwaring, R.G.	Liberal
	Milne, C.A.	Green Ind.
	Page, The Hon. G.R.	Liberal
	Polley, M.R.	ALP

Officers of the House of Assembly

Speaker—The Hon. G.R. Page
 Chairman of Committees—Mr J.S. Barker
 Clerk—Mr P.T. McKay
 Clerk Assistant and Sergeant-at-Arms—
 Mr P.M. Bennison



This left the Independents holding the balance of power in the parliament, and no one party able to govern in its own right.

After lengthy negotiations, the five Independents and the parliamentary Labor Party signed an "Accord" which ensured the Labor Party majority support in the parliament.

The Accord ended in October 1990 after Cabinet endorsed the Forests and Forest Industry Strategy.

Uneasy days followed for the government, unable to count on a majority in the house.

The Green Independents continued to fight the progress of the legislation, desperately putting forward several motions of no confidence in the government.

The legislation was eventually forced through the House of Assembly in November 1991, when the Labor and Liberal parties combined their numbers to ensure its success.

An election was called by Michael Field for February 1992, which resulted in the election of 19 Liberal, 11 Labor and 5 Green Independents.

This was described by the press as a "Land-slide" victory for the Liberal Party, and ensured them an absolute majority in the parliament.

3.2.5 The Legislative Council

The Legislative Council has the tradition of being a non-party house; in 1991 the composition of the house was 17 Independents one Labor Party representative and one Liberal Party member. The leader for the Government in the Legislative Council therefore cannot rely upon a vote taken on party lines to ensure the passage of any government bill. Contrary to the House of Assembly where parties usually dominate to ensure the passage of Government legislation,

no such certainty exists with legislation through the Council. As a result it is not unusual for legislation to be amended or even rejected. Where conflict occurs between the two Houses, 'managers' are appointed from each House to meet and attempt to resolve the dispute. Occasionally, even such 'Managers Conferences' fail to resolve the differences.

Following conflict between the two Houses of Parliament over a money bill during 1924 and 1925, the *Constitutional Amendment Act 1926* was passed. This Act defined the relations between the two Houses especially with regard to the passing of money bills.

3.8 MEMBERS OF THE LEGISLATIVE COUNCIL, JUNE 1991

<i>Electoral division</i>	<i>Member's name</i>	<i>Year of retirement</i>
South Esk	Archer, The Hon. R.C.	1992
Cornwall	Bailey, The Hon. R.F.	1996
Derwent	Batt, The Hon. C.L. (a) (b)	1997
Westmorland	Brookes, The Hon. H.G.	1997
Russell	Fletcher, The Hon. A.W.	1993
Newdegate	Ginn, The Hon. R.W.	1993
West Devon	Hiscutt, The Hon. H.J.	1995
Meander	Hope, The Hon. R.T.	1997
Tamar	Loone, The Hon. J.A.	1995
Buckingham	Lowe, The Hon. D.A. (c)	1992
Pembroke	McKay, The Hon. P.C. (d)	1995
Huon	Meyer, The Hon. A.Y.	1996
Hobart	Petrusma, The Hon. H.	1994
Gordon	Schulze, The Hon. P.R.	1994
Macquarie	Shaw, The Hon. G.A.	1992
Mersey	Squibb, The Hon. G.B.	1996
Queenborough	Stopp, The Hon. E.J.C.	1995
Monmouth	Wilson, The Hon. S.J.	1993
Launceston	Wing, The Hon. D.G.	1994

(a) Endorsed by the Australian Labor Party.

(b) Leader for the Government.

(c) Deputy Leader for the Government.

(d) Endorsed by the Liberal Party.

- The Legislative Council retains the right to reject any bill, including a money bill.
- The Council is specifically prevented from amending bills to raise revenue for the ordinary annual services of the Government and bills imposing land and income tax.
- It can suggest to the House of Assembly that amendments be made but the adoption or rejection of such amendments is at the discretion of the Assembly.

Apart from the above specific exception, the Council retains the right to amend money bills, e.g. those dealing with loan funds or probate. The House of Assembly is given the sole right to initiate bills for the raising of revenue and the imposition of taxes. Finally, the powers of the two houses are declared equal in all matters except for these specific exceptions.

Legislative Council Elections

Members of the Legislative Council are elected by 19 single member electorates for six-year terms by preferential voting. Elections are held every year to elect three members except for every sixth year when four members are elected.

As for the Assembly, candidates' names are rotated on the ballot papers. To be elected a candidate must obtain 50 per cent of the valid votes plus one, including preferences. A valid vote must show at least three preferences.

Rotational elections were held for the electorates of Mersey, Cornwall and Huon in 1990 and for Derwent, Westmorland and Meander in 1991. Devonport Mayor, Geoff Squibb, was elected to the seat of Mersey which was left vacant by the retirement of Mr Harry Braid after 18 years as a councillor. Mr Squibb received 4570

Officers of the Legislative Council

President—The Hon. G.A. Shaw

Deputy President and Chairman of

Committees—The Hon. S.J. Wilson

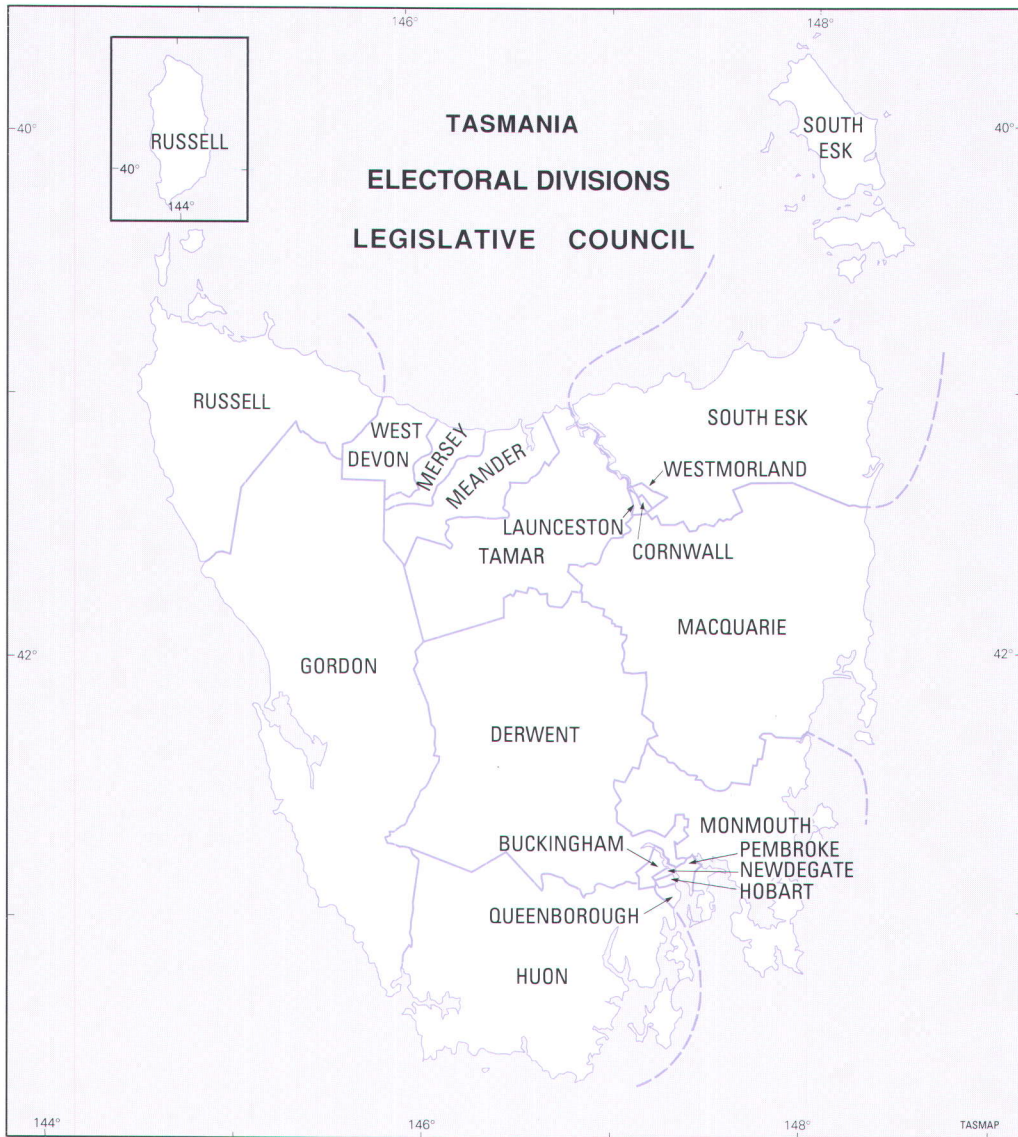
Clerk—Mr R.J.S. McKenzie

Usher of the Black Rod—Mr D.T. Pearce

Clerk-Assistant—Ms W.M. Peddle

Second Clerk-Assistant and Clerk of

Committees—Ms Inta Andra Mezgailis



primary votes and went on to gain a clear majority of preference votes to finish with 9147 votes. Launceston solicitor, Mr Ray Bailey replaced sitting Cornwall member, Mr Robin McKendrick. Mr Bailey polled 5010 votes to Mr McKendrick's 4398 in a close contest. The sitting member for Huon, Mr Athol Meyer, topped the poll with 8275 votes to be returned for another term.

Derwent sitting member, Mr Charles Batt was returned to the Council while Mr George Brookes replaced Mr Chellis in Westmorland.

Mr Reg Hope had a resounding win in the Meander Legislative Council election polling 9125 votes (80 per cent of the vote). His only challenger, Ald Mary Binks polled 1757 votes.

3.2.6 Departments

When deciding on the structure of his new 10 member cabinet, the Premier, Mr Ray Groom, revised many of the sweeping changes made to the public service by the previous government of Mr Field.

Ministers and their Portfolios as at April 1992

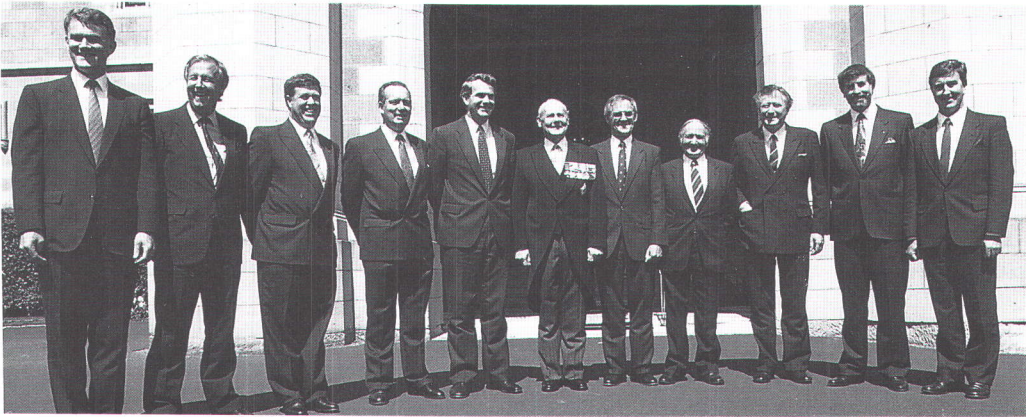
The Hon. R.J. Groom	Premier, Treasurer and Minister for Economic Development
The Hon. R.J. Beswick	Deputy Premier, Minister for Education and the Arts, and Minister for Employment, Industrial Relations and Training
The Hon. I.M. Braid	Minister for Construction, Minister for Local Government, Racing and Gaming, and Minister Assisting the Treasurer
The Hon. T.J. Cleary	Minister for Environment and Planning, Minister for Parks, Wildlife and Heritage, Inland Fisheries and Small Business
The Hon. R.Cornish	Attorney-General, Minister for Justice, Finance and Budget Management
The Hon. R.T. Gray	Minister for Primary Industry, Fisheries and Energy
The Hon. F.R. Groom	Minister for Health and Minister for Community Services
The Hon. P.C. Hodgeman	Minister for Tourism, Sport and Recreation
The Hon. F.L. Madill	Minister for Police and Emergency Services and Minister for Roads and Transport
The Hon A.M. Rundle	Minister for Forests, Minister for Mines and Minister Assisting the Minister for Economic Development

The separate portfolios of Mines, Racing and Gaming, Local Government and Inland Fisheries have been returned.

Also, The Department of Primary Industry has been renamed the Department of Primary Industry, Fisheries and Energy, which Mr Groom said would recognise the importance of the Tasmanian fishing industry.

The Department of Administrative Services and Consumer Affairs has been abolished and many of its functions will be performed by the department of Premier and Cabinet or the department of Treasury and Finance.

Consumer Affairs and Electoral Office responsibilities will be held by the Department of Justice.



The Governor, General Sir Phillip Bennett, centre, with the Cabinet, from left, Mr Ron Cornish, Mr Tony Rundle, Mr John Cleary, Dr Frank Madill, the Premier, Mr Ray Groom, Mr John Beswick, Mr Ian Braid, Mr Robin Gray, Mr Roger Groom and Mr Peter Hodgman.

Photo: The Mercury

The administration of Inland Fisheries has been moved to the Department of Parks, Wildlife and Heritage which may also gain Environment and Planning.

The Ambulance Service will now be administered by the Department of Health.

3.3 LOCAL GOVERNMENT

As at 30 September 1991, local government in Tasmania was administered by the councils of 40 municipalities and the six cities of Hobart, Launceston, Glenorchy, Devonport, Burnie and Clarence. Each council is responsible for the provision of many of the services necessary for the organisation and welfare of the community which it represents.

In Tasmania there are only two categories of local government, a municipality or a city. Before a municipality can petition to become a city, it must have had, for five years before the petition, an average population of not less than 20 000.

For any of a number of reasons, the Minister administering the Local Government Act may consider it necessary to recommend suspension of the elected councillors and the appointment of a commission, or in certain cases, an administrator to carry on municipal government in a particular municipality.

A councillor must be an elector of, and either reside or carry on business in, the municipality.

Findings of Royal Commission

The Findings of the bribery royal commissioner, Mr William Carter were released in a twelve-hundred page, three-volume report on 5 November, 1991. In his conclusion, Mr Carter wrote that 'this commission was principally established to identify those who were involved in the attempted bribery of Jim Cox, other than Edmund Rouse and Tony Aloï'. Findings and recommendations from the report included:

- No criminal charges to be laid against anyone, but that the managing director of ENT, Mr David McQuestin was unlawfully involved as an accessory after the fact;
- Mr Robin Gray knew of the Rouse bribery attempt, Mr Gray's conduct was 'grossly improper' but Mr Carter was 'not prepared to find, on the evidence, that it was unlawful';
- Edmund Rouse was the central figure in the bribery attempt; and
- No witness was to receive payment of their legal costs.

Mr Carter concluded that 'there is much to be said for now consigning this unfortunate episode in Tasmania's political and legal history to the history books' and he expressed a wish that 'this report will not, in itself, become an instrument of even further conflict and division'.

Devonport Centenary

The city of Devonport celebrated its centenary in 1990. Devonport was formed in February 1890 when the original twin Mersey River towns of Torquay on the east side and Formby on the west amalgamated. The proposed amalgamation was a sensitive issue which was debated at many meetings. Unanimous support was lacking with the opponents of the proposal including two leading and outspoken citizens, Bartholomew Thomas of Formby and Torquay's Robert Stewart. A Bill was passed in State Parliament on 22 November 1889 to constitute the town of Devonport, subject to the amalgamation receiving support by referendum.

The referendum was held on 11 February 1890 and resulted in Torquay voting 27 against and 96 for, and Formby 116 for with no votes against. The amalgamation proposal was passed. The citizens returned to vote for Town Board representatives - those elected were: Messrs Arthur Gatenby, Henry Teesdale Smith, William Holyman and Roger Winspear for Torquay and Messrs John Henry, William Aikenhead, Thomas Pressland Cowle and David Cocker for Formby. William Aikenhead was appointed chairman at the first meeting of the Town Board on 14 February 1890.

Councils may comprise six, nine, 12 or 15 councillors. The Warden, Deputy Warden and Treasurer are elected by the council members on an annual basis. The electors of Hobart elect the Lord Mayor and in Glenorchy, Devonport, Burnie and Clarence the electors elect the Mayor. However, the Mayor of Launceston is elected by Council members. The office of warden is comparable with that of the mayor of a city or the president of a shire in other States.

In September 1990 Alderman Terry Martin became Mayor of Glenorchy. Alderman Martin's father, Terry senior, was Glenorchy's first mayor when the municipality was proclaimed a city in 1965. Terry Martin was

returned as Mayor unopposed in the March 1991 local government elections.

Also in the March 1991 elections Burnie's Ald Sandra French became the State's third woman mayor when she was elected Mayor of Burnie. She replaced Rex Collins who retired a week before the election.

In Westbury Cr Janet Keeling and Cr Richard Archer lost their places in the new North Ward after a five-way contest saw Crs John Digney, Laurie Masters and Denise Swan elected. In the new South Ward Cr Philip Beveridge and Cr George Spencer were unsuccessful in the seven-way battle for three vacancies. Elected were Crs Michael McGee, Perc Bellinger and Syd West.

Both Cathy Edwards, Mayor of Clarence, and Graeme Beams, Mayor of Launceston, were re-elected for a second term.

The State Government replaced the Portland Council with an administrator in June 1991. Mr Terry Stuart, a former Ulverstone warden was selected as administrator of the municipality which covers an area of the far north-east including St Helens. His role was to prepare a report for the Minister for Environment and Planning on the effectiveness of the council's operations and administration. The Portland Council's nine members asked for their own dismissal after negotiations to resolve a leadership battle collapsed.

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Chapter 4

LAW AND ORDER

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Chapter 4

LAW AND ORDER

Tasmania's laws, legal system and institutions are derived from those of Britain. Indeed, for a time, English law applied directly to the colony and, by Federation in 1901, all Australian States had a legal system firmly based on the Common Law of England. With Federation, Tasmanians also became subject to Commonwealth laws enforced by administratively separate institutions.

The legal system is based on the political and philosophical ideal called *the rule of law*. This means that a person's relations with other people and the State are governed by law, not by force or arbitrary power. The Parliament enacts the law and officers who administer the law are responsible, through parliament, to the people.

Another principle of *the rule of law* is that no person should be deprived of his life, liberty or property except by fair trial in open court presided over by impartial judges. In law, all people are equal.

Australia has two sources of law: case law and legislation or statute law. Case law, also called common law, consists of rules resulting from the decisions of the courts. When a case comes before the courts, the judges generally apply the law as laid down or interpreted by earlier courts that decided similar cases.

The Commonwealth and State parliaments make Australia's laws within powers set out in the Constitution. Often legislation gives power to the Governor-General, Governor or a minister to make rules of law. Such laws, called subordinate, or delegated, legislation are an important part of the law.

State and Commonwealth police are charged with enforcing the law. The police have broad



The Honourable Justice Slicer, who was appointed to the Bench in 1991. Photo: The Mercury

powers to investigate breaches of the law and to arrest people suspected of crimes. Usually, it is the police who institute criminal proceedings. Each State as well as the Commonwealth has its own police force.

After formal charges are laid, guilt or innocence is determined through trial in a court. In Tasmania, this is either the Supreme Court or, for less serious matters, a lower court, with each having jurisdiction in civil, as well as criminal, matters. For civil trials and criminal matters in the lower courts the issue is generally determined by a magistrate. In the Supreme Court, questions of guilt in criminal matters are decided by a jury.

Although the Tasmanian jury system is based on the English system it has, since 1934, embodied the principle of allowing majority decisions in certain circumstances instead of requiring the unanimous decisions once characteristic of juries in England. In criminal cases, a 10-2 decision is accepted in lieu of 12-nil after stipulated periods of deliberation. In the case of murder, 12-nil is necessary to convict, but 10-2 can bring in a verdict of not guilty, or not guilty of murder but guilty of a lesser crime.

Civil litigants may elect to have a seven-member jury and, if after three hours deliberation a seven-nil decision cannot be reached, a five-two decision is accepted. If the minimum five-two decision cannot be reached after four hours, the jury may be discharged.

At present, all people listed on the electoral roll below the age of 65 are liable for service as jurors. However, persons convicted of an offence, bound by a recognizance or subject to a community service order or probation are disqualified from service.

Within limits prescribed in legislation, the presiding officer of the court imposes a sentence: imprisonment, a fine, probation, or a community service order. A term of imprisonment may be suspended on condition of good behaviour.

Crime Frequency, 1989-90

Property crimes	One offence every 16.4 mins.
Theft (excluding motor vehicle theft)	One offence every 31.5 mins.
Burglary (excl. motor vehicles)	One offence every 63.6 mins.
Fraud, forgery, and misappropriation	One offence every 503.5 mins.
Motor vehicle theft	One offence every 392.0 mins.

(Source: Tasmania Police).

4.1 POLICE

Directed by a Police Commissioner answerable to the Minister of Police, the Police Department was composed, as at 30 June 1990 of a force of 1077 officers (one per 424 persons) plus support personnel. The Department consists of four main branches: criminal investigation, traffic control, recruitment and training, and support services.

The duty of a police officer is to serve the community by protecting life and property, preserving the peace and detecting and apprehending offenders. There are few limits however to the variety of tasks police officers are called on to perform.

Tasmania's Commissioner of Police

Mr John Johnson was appointed Tasmania's Commissioner of Police in June 1991. Prior to taking up the appointment he was the Deputy Commissioner (administration) of Australian Federal Police.

Mr Johnson's police career began in 1957 in Victoria, he joined the Australian Capital Territory Police in 1959 where he held the positions of Assistant Commissioner and Deputy Commissioner. Mr Johnson took up his new position in Tasmania on 1 July 1991 along with Mr Alan Morris, the State's new Secretary of the Department of Police and Emergency Services. Mr Johnson replaced former Police Commissioner, Mr Bill Horman who resigned to become Director of Investigations with the National Crime Authority.

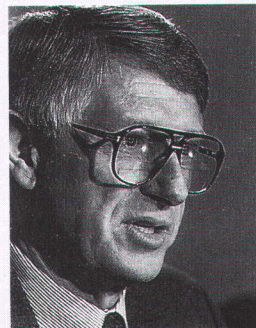


Photo: The Mercury

4.1.1 Criminal Investigation

Tasmania Police has Criminal Investigation Branches in their Divisional Headquarters at Hobart, Launceston and Burnie. The task of each branch is to detect and investigate crime and to offer the public advice on how to prevent crime.

Reported Serious Crime Per Head of Population

1980-81	1 crime per 3.86 persons
1986-87	1 crime per 4.78 persons
1987-88	1 crime per 4.28 persons
1988-89	1 crime per 4.66 persons
1989-90	1 crime per 4.62 persons

(Source: Tasmania Police).

Modern methods of criminal investigation help produce a high rate of reported crime being 'cleared-up'. In 1989-90 the clear-up rate of indictable criminal offences reported was 14.8 per cent.

Uniformed officers from police stations are often the first on the 'scene of a crime' and their reports are sent to the Divisional Criminal Investigation Branch (CIB) for specialist attention. Each crime report is examined by senior officers and allocated to a detective. Then can follow hours of telephone calls, general enquiries, interviews, examination of statements and forensic reports in an effort to track down offenders.

Specialist squads within the CIB investigate such matters as major crime, illicit drug activity, vice, gaming, fraud, corporate affairs, arson, breaking and stock theft.

4.1 OFFENCES RECORDED BY TASMANIA POLICE

Offence	1988-89	1989-90
Assault and like offences	1 455	1 741
Homicide and related offences	17	12
Crimes of indecency and like offences	92	109
Other offences against the person	22	33
Offences against property	30 167	31 960
Fraud and similar offences	1 487	1 041
Miscellaneous police offences	4 315	3 394
Licensing Act offences	3 145	2 703
Racing and Gaming Act offences	20	79
Traffic and road safety offences	52 903	54 223
Miscellaneous Acts and offences	3 161	3 596

(Source: Commissioner of Police, Annual Report).

4.1.2 Traffic Control

The aim of traffic police is to keep traffic moving safely on Tasmanian roads. Detection of traffic offenders is the primary role, with parking offences, general road traffic management duties and attendance also important.

The Accident Investigation Squad attends all fatal and serious accidents where serious charges are likely to arise. It is the duty of the first police officer on the scene of an accident to ensure it remains undisturbed until the arrival of the Squad. It is also the duty of the officer to ensure all the drivers of the vehicles involved are given a breath analysis. The officer also has the

Computerised Breathalyser

In June 1988 Tasmania Police introduced a computerised alcotester (breathalyser) which was considered the most accurate and advanced in Australia. Upon blowing into the mouthpiece the driver is given a printout, generated by the machine, of the recorded blood alcohol concentration level. A driver with 0.05 grams of alcohol (or above) in 100 millilitres of blood, is liable to conviction for this offence in Tasmania. A police officer may arrest a driver if the roadside test is positive and take the driver to a police station or other appropriate place where further testing may be done. Under the *Road Safety (Alcohol and Drugs) Act 1970* the maximum penalty for a first offence is \$1000 and/or six months imprisonment with a maximum period of disqualification of three years. For a second offence the maximum penalty is \$2000 and/or 12 months imprisonment with a maximum period of disqualification of six years.

task of ensuring next of kin are notified and of completing the initial Coroners Form. In 1990 there were 1386 road traffic accidents on Tasmanian roads that involved casualties.

The Road Toll

The number of people killed or injured on the roads in recent years has stabilized. The intervention of both blood-alcohol limit and compulsory seat-belt legislation is believed to have mitigated the toll, but alcohol, speed, pedestrian fault, failure to keep left and failure to give way remain as major contributors to the fatality rate.

4.2 THE ROAD TOLL, TASMANIA

Period	Persons killed	Persons injured	Total
1984	84	2 015	2 099
1985	78	2 070	2 148
1986	91	2 060	2 151
1987	77	1 959	2 036
1988	75	1 925	2 000
1989	80	1 997	2 077
1990	71	1 905	1 976

(Source: ABS Catalogue No. 9406.6).

4.1.3 Support Services

Tasmania Police is assisted by various support services which are administered and developed by the Management Services District which has six specific areas of operation: Planning and Research Section; Search and Rescue Section; Transport Section; Communications (Technical) Section; Information Bureau; and Scientific Bureau. Of special assistance to Criminal Investigation and Traffic Branches is the Scientific Bureau.

In recent times, drug trafficking has spread throughout the world. Since 1984 specialised personnel highly qualified in their respective fields have worked closely together in the investigation of drug related crime. Their forensic duties are performed in co-operation with the Government Pathologist and Analyst.

4.1.4 Crime Prevention

A vigilant, well informed public can take an active role in crime prevention. Making people responsible for their own safety and the security of their property is the aim of officers who work in the Crime Prevention Bureau of Tasmania Police.

With the objective of reducing preventable crime, advice is readily available to householders, businesses, government and other police officers. Many lectures and workshops are given every year to schools, service clubs and businesses. The Neighbourhood Watch Program is supported by police who attend neighbourhood meetings and provide information, where needed, on local crime rates and help available. They also test many anti-crime devices, such as locks and payroll protection, offered by commercial firms.

Police Staffing

The basic requirements for entry to the police force are Australian or British citizenship, age and education and entrants must pass an exam and physical fitness test. The candidates are interviewed by a selection board and medically examined before a final selection of recruits is made. In 1990, 22 recruits were inducted into the force.

The training course for recruits is a 32 week fully residential course conducted at the Police Academy at Rokeby, near Hobart. There is a full study schedule of academic and practical subjects, and physical training and sport. Recruits

get a chance to work in police stations, with community groups and to develop survival skills in the bush. The curriculum is based on the modern thematic modular approach to specific problem areas which face police officers. Legal procedures, social and practical policing techniques of each area are taught at the same time.

4.2 COURTS

Courts are tribunals set up to hear arguments to resolve allegations that offences have been committed, and to resolve disputes. Where offences are proven the courts impose a penalty or penalties; where matters in dispute are decided the court can impose appropriate conditions of settlement.

As in the other Australian States, Tasmanian courts derive from British traditions. Thus the basic hierarchy of courts is similar between States, except that in Tasmania there are no intermediate courts. The Higher courts are titled Supreme Courts and deal with matters of a major nature. Civil matters brought before the Supreme Court will usually be heard by a judge alone and in criminal cases by a judge and jury. It also hears appeals from lower courts at which the case will be heard by a single judge. Appeals from the Supreme Court will be heard by several judges, referred to as the Full Court of the Supreme Court or the Court of Criminal Appeal.

Lower courts in Tasmania are known as Courts of Petty Sessions or Magistrates Courts and deal with minor civil or criminal matters. Civil matters involving amounts of less than \$5000 are heard in Courts of Requests.

Cases involving children are heard by the Children's Courts and may involve either a criminal matter or an allegation under child or community welfare legislation relating to a child being in need of care, control or protection.

In addition, inquests concerning certain deaths or the cause of fires are held as required in Coroners Courts.

Although not strictly courts, there are also a number of tribunals set up under particular statutes to act as specialised courts. An example is the Wardens' Court constituted under the

Mining Act 1929 to hear matters involving mining licences.

Tasmanians, like the residents of the other States, are subject to Commonwealth laws, for which there is a system of Commonwealth Courts. The most prestigious is the High Court of Australia constituted by the Chief Justice and six other Justices to resolve inter-state disputes and disputes between the Commonwealth and the States. If there is sufficient business, the High Court may sit in Hobart.

With the passing of the *Family Law Act*, in 1975, the Family Court of Australia was established to deal with divorce and the custody of children. The sole ground for divorce became irretrievable breakdown of marriage.

4.2.1 Supreme Court

The Supreme Court of Tasmania is constituted by the Chief Justice and six puisne judges. Regular sittings of the court are held at Hobart, Launceston and Burnie, although the court is authorised to sit and act at any time and at any place in the exercise of the jurisdiction and business of the court.

The court has jurisdiction over all cases, both civil and criminal, except those reserved for other courts under the Australian Constitution. It

The Hon. Mr Justice Neasey retired in 1990 after 27 years as a Tasmanian Supreme Court judge.

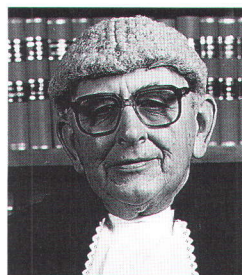


Photo: Tasphoto Services

also exercises federal jurisdiction in particular matters; for example all criminal matters (including those covered by the *Commonwealth Crimes Act*) are heard in State courts. Its civil jurisdiction extends to all cases of action, whatever the amount involved, and its criminal jurisdiction includes the trial of all indictable offences.

The jurisdiction of the court is usually exercised by one judge of the court. From his decision there is a right of appeal to the Full Court of the Supreme Court of Tasmania. A Full Court usually consists of three or more judges of the court. The Full Court is also a Court of Criminal Appeal under the Criminal Code. Appeals may be brought to the Supreme Court by the prosecution or by the defendant from conviction or sentence in a Court of Petty Sessions, or from many administrative tribunals.

Unlike a Children's Court, the Supreme Court is in no way inhibited in imposing a penalty on a child. In addition to its ordinary sentencing powers, it may make supervision or wardship orders, and commit a child to an institution. If a child is sentenced to imprisonment, the Minister responsible may direct that the sentence be served in a place other than a gaol.

The Supreme Court of Tasmania

Chief Justice

Sir Guy Green, appointed 1973.

Puisne Judges

The Hon. Mr Justice William Cox,
appointed 1982.

The Hon. Mr Justice Peter Underwood,
appointed 1984.

The Hon. Mr Justice Christopher Wright,
appointed 1986.

The Hon. Mr Justice Ewan Crawford,
appointed 1988.

The Hon. Mr Justice William Zeeman,
appointed 1990.

The Hon. Mr Justice Pierre Slicer,
appointed 1991.

4.3 OFFENCES, TASMANIAN SUPREME COURT, 1990

<i>Offence</i>	<i>Finalised Proven</i>	
Offences against the person	435	365
Robbery and extortion	25	25
Breaking and entering, fraud and other offences involving theft	1 048	887
Property damage and environmental offences	48	33
Offences against good order	45	38
Drug offences	97	78
Motor vehicle, traffic and related offences	11	6
Total	1 709	1 432

(Source: ABS Catalogue No. 4508.6).

than a dwelling where the value of the property involved does not exceed \$5000; and forgery and uttering of a cheque for not more than \$5000.

Courts of Request

These are constituted as courts with civil jurisdiction for particular municipalities in accordance with the authority given by the *Local Courts Act 1896*. Courts are held before a commissioner who is usually a magistrate. Every court has jurisdiction throughout the State but a plaintiff may have his action struck out if he brings it in a court other than the court nearest to which the cause of action arose.

The current jurisdiction of a Court of Requests covers all personal actions where the debt or damage claimed does not exceed \$5000.

The Small Claims Division of the Magistrates Court was established to deal with claims of up to \$2000. The primary function of the magistrate hearing the claim is to attempt to bring the parties to a dispute to an acceptable settlement but, if he cannot do so, he may determine the matter in dispute. Proceedings in this jurisdiction are private, straightforward and informal. Legal practitioners are excluded as a general rule, and the magistrate may proceed as he sees fit.

Matters finalised in the lower court may be finalised by referral to the Supreme Court. In 1990, 1706 matters were finalised by this method. Most were in relation to the more serious crimes of offences against the person and breaking, entering, fraud and other theft. About 84 per cent of matters finalised involved males,

a similar percentage to that for higher courts. In terms of age the majority of matters coming before the courts relate to young offenders; males in the age bracket 15–24 account for about 50 per cent of male matters finalised. (Males in this age group comprise only 21 per cent of the male population aged 15 years and over.) A similarly high proportion of female matters finalised relate to women in this same age bracket.

Children's Courts

A 'child' in this jurisdiction is one under the age of 17 years. The court before finally disposing of the case, must receive a report from a child welfare officer (the representative of the Director of Community Welfare), unless the court considers the offence trivial or the Director decides not to provide one. A child's parent has the right to be heard and to examine and cross-examine witnesses, or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience.

4.5 OFFENCES, TASMANIAN CHILDREN'S COURTS, 1990

<i>Offence</i>	<i>Finalised</i>	<i>Proven</i>
Offences against the person	98	89
Robbery and extortion	3	2
Breaking and entering, fraud and other offences involving theft	2 192	2 139
Property damage and environmental offences	185	178
Offences against good order	1 427	1 345
Drug offences	50	49
Motor vehicle, traffic and related offences	51	49
Other offences	24	23
Total	4 030	3 874

(Source: ABS Catalogue No. 4508.6).

4.4 OFFENCES, TASMANIAN LOWER COURTS, 1990

<i>Offence</i>	<i>Finalised</i>	<i>Proven</i>
Offences against the person	2 008	818
Robbery and extortion	23	-
Breaking and entering, fraud and other offences involving theft	5 693	4 854
Property damage and environmental offences	784	687
Offences against good order	7 321	6 714
Drug offences	2 181	2 053
Motor vehicle, traffic and related offences	5 902	5 798
Other offences	939	816
Total	24 851	21 740

(Source: ABS Catalogue No. 4508.6).

In summary proceedings, the court is compelled not to enter a conviction against a child unless it imposes a sentence of imprisonment or there are special circumstances which indicate that a conviction should be recorded.

Children under 16 years cannot be sentenced to imprisonment and children of 16 years cannot be sentenced for more than two years, in aggregate. Minimum penalties imposed by statute do not apply to children; for those under 14 years the maximum fine is \$20, and for those over 14

years, \$100. The court may impose a supervision order to bring the child under the guidance of a child welfare officer or, if over 15 years, of a probation officer. Alternatively, the court may declare the child a ward of the State, placing him or her under the control of the Director for Community Welfare until his or her eighteenth birthday, unless released sooner; it may also direct that a ward be committed to an institution. In cases where further investigation appears necessary the Court may issue a remand for an observation order before it makes a final decision. Remands for observation orders are for short periods and usually provide for intensive supervision. Neglected or uncontrolled children are also in the Court's jurisdiction.

Coroner's Court

Coroners are appointed by the Governor and have jurisdiction throughout the State. Under the *Coroners Act 1957*, a coroner may hold an inquest:

- concerning the manner of death of any person who has died a violent or unnatural death, who died suddenly without cause being known, or from 'sudden infant death syndrome' or 'cot death', or who died in a prison, or mental institution. At the direction of the Attorney-General, he may also be required to hold an inquest concerning any death; and
- concerning the cause of any fire if the Attorney-General has directed, or has approved a request by the owner or insurer of the property; or at the request of the State Fire Authority or the Rural Fires Board.

The duty of the court is to determine who the deceased was, and the circumstances by which death occurred. Medical practitioners and other persons may be summoned to give evidence. In the case of the death of an infant in a nursing home, the coroner may also inquire generally into the conditions and running of the institution. On the evidence submitted at the inquest, the coroner can order a person to be committed to the Supreme Court and can grant bail. In the case of murder, a coroner can issue a warrant for apprehension.

The coroner, in holding an inquest, usually acts alone, but either the Attorney-General or the relatives of the deceased may request that a four or six-person jury be empanelled. After considering a post-mortem report the coroner may dispense with an inquest, unless the

circumstances of death make an inquest mandatory under the Act.

The *Coroners Amendment Act 1985*, brought forward two significant innovations; the tape recording of depositions to speed up the hearing of inquests, and new provisions dealing with the care, custody and control of exhibits which may prove useful to those persons who need the use of exhibits pending the hearing of inquests or who seek possession of exhibits when the inquest is over.

4.2.3 Commonwealth Courts

The High Court of Australia

The High Court has original jurisdiction under the *Commonwealth of Australia Constitution Act 1901* in cases concerning treaties, consuls, the Commonwealth of Australia as a party, residents in different States and matters arising under the Constitution.

It is the final court of appeal for Commonwealth and State Courts; it hears appeals from State Supreme Courts and the Federal Court of Australia, and in some circumstances, from the Family Court of Australia.

The Family Court

The Family Court of Australia was set up by the *Family Law Act 1975*. It hears petitions for divorce and has jurisdiction in the welfare and custody of children and in disputes as to maintenance and property of marriage.

Summary of Divorces, Tasmania, 1990

Divorces granted	1 170
Crude divorce rate (per 1000 population)	2.6
Median duration of marriage (years)	10.1
Median interval between marriage and final separation (years)	7.6
<i>Divorces involving children -</i>	
Number	721
Percentage of total divorces	61.6
Average issue	2.0

(Source: ABS Catalogue No. 3307.0).

In 1989, 1269 divorces were granted, an increase of 49 on the number granted in the previous year. About 57 per cent of the petitioners are females.

Family Violence

Organisations and agencies specifically dealing with domestic violence issues have been established in recent years, not only to increase awareness of formal legal rights and responsibilities, but also to raise community awareness of the problem and to offer alternative solutions. The primary aim of such organisations is to suggest practical steps that may avert the worst effects of domestic violence at the point of crisis.

Practical measures against family violence usually involve seeking immediate protection for the victims. The police are an obvious source of assistance and have a range of powers to investigate and guard against breaches of the peace, although police action often depends upon the request of a victim. The Crisis Intervention Unit of the Department of Community Services offers advice and assistance in obtaining alternative accommodation or enhanced security and communications facilities to persons at risk.

Women's Refuges provide crisis accommodation to women and children until a threatening situation has abated. Counselling services are available to parties, including advice in specific areas such as alcohol abuse and through self-help groups for violent men. Child Protection is specifically catered for under the *Child Protection Act* which includes mandatory reporting of suspected child abuse cases by medical practitioners, and wide powers for officers to investigate and act upon any reports of child abuse.

Legal remedies available include the laying of charges of assault or of more serious indictable offences. If an alleged assailant is granted police bail, conditions such as that the defendant not approach, harass or molest the victim, or telephone or directly contact them, may be applied.

Restraint Orders, specifically designed under the *Justices Act*, are also available to provide victims of domestic violence with legal protection. Similar provisions are also included in the *Family Law Act* where parties are involved in Family Court proceedings.

4.6 DIVORCES GRANTED BY SEX OF PETITIONER

Year	Males	Females	Joint (a)	Total
1985	450	695	24	1 169
1986	464	736	45	1 245
1987	415	660	40	1 115
1988	455	688	77	1 220
1989	471	728	70	1 269
1990	448	654	68	1 170

(a) Under the *Family Law Act* joint applications for divorce became possible from 1 December 1984.

(Source: ABS Catalogue No. 3307.0).

The Federal Court of Australia

Established in 1976 to replace the former Australian Industrial Court and the Federal Court of Bankruptcy, it sits in two divisions; Industrial and General.

4.3 SENTENCES

Statutes creating offences in criminal law often prescribe a penalty for the crime. It is, however, a maximum penalty. The magistrate or judge may exercise discretion in deciding what is appropriate, taking into consideration the particular offender, and the circumstances of the offence.

The death sentence was abolished in Tasmania in December 1968 having last been imposed in 1946. Punishment has been regarded as preventive, exercised to avoid further trouble from the offender. In all forms of punishment, deterrence, the imposition of a severe sentence on the offender as an example to the community, is a strong element.

Although fines and terms of imprisonment remain frequently imposed penalties, the modern trend has been toward avoiding the use of imprisonment. This is the basis for such sentences as community service orders and probation.

4.3.1 Fines

A fine is the penalty most frequently imposed by the courts. In 1990 fines provided just on 35 per cent of all penalties imposed by all courts, with the majority being handed down by magis-

trates. More than three quarters of all fines imposed related to just two offence categories, motor vehicle offences and offences against good order. Forty-one per cent of fines imposed were for amounts less than \$100 in 1990; only 17 per cent of fines were for amounts in excess of \$250.

4.3.2 Imprisonment

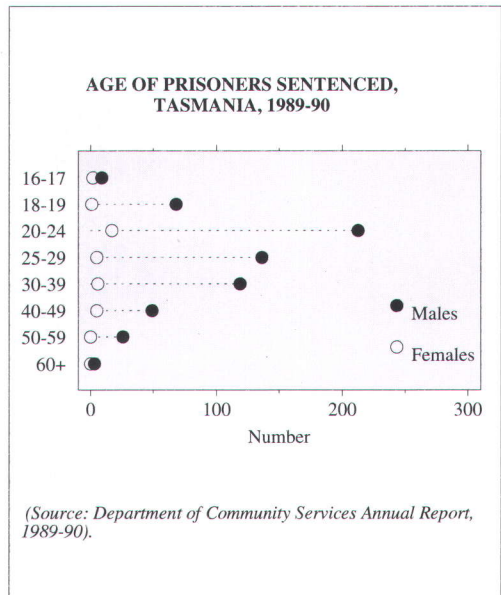
Tasmania's main prison is at Risdon, near Hobart, which has, as an outstation a prison farm at Hayes in the Derwent Valley. A prison at the Police Headquarters building in Launceston is a temporary holding centre where prisoners are held prior to being transferred to Risdon.

Approximately 95 per cent of people sentenced to gaol are males. In 1989-90, 564 prisoners were received—533 males and 31 females. However, there were 653 imprisonments during the period. A number of prisoners, almost entirely males, therefore had more than one prison sentence during the year. Almost 62 per cent of the people sentenced to gaol in 1990 had been imprisoned previously. Of the 361 people (60 per cent) with previous prison sentences, 49 per cent had been to prison at least three times before.

The biggest proportion of imprisonments was for offences against good order and offences relating to breaking and entering, fraud and other offences involving theft. Offences relating to motor vehicle and traffic were also relatively high. Only about 11 per cent of gaol sentences

were for periods of one year or more. Most prison sentences were for a period of one to three months.

A large proportion of prisoners consists of young offenders. Forty-seven per cent of those sentenced to imprisonment during 1989-90 were under 25 years of age. The proportion of young prisoners has steadily declined over the past 20 years. In 1970, 60 per cent of all prisoners were aged less than 25 years. In 1985 the percentage was 52 per cent.



4.7 INSTITUTIONS FOR ADULTS, TASMANIA, 1989-90

Institution	Capacity	Average occupancy	Staff positions
Risdon prison (male)	320	179	215
Risdon prison (female)	23	8	
Risdon special institution (security hospital)	29	14	
Medium security unit	36	-	-
Hayes prison farm	70	33	16
Total	478	234	231

(Source: Department of Community Services Annual Report 1989-90).

The decline is attributed to an increase in the use of non-custodial sentencing options and a decline in the proportion of young people in the population, which fell by nine per cent over the same period.

4.3.3 Probation and Parole

Although fines and imprisonment are the most common sentences for offences, there has been a growing view that harsh punishments are not necessarily effective in reducing offences. The result is a growing move towards imposing custodial sentences, such as probation orders with supervision, that aim to reform the offender and community service orders. In Tasmania, the Probation and Parole Service is responsible for administering these sentences.

Legal Aid Services

Legal Aid is intended to provide access to the law to people who would otherwise be unable to afford it. The solicitors and others who provide legal aid are salaried or funded by government. Services provided include legal advice and assistance in legal procedures concerning civil or criminal matters ranging from small legal problems to appeals to the High Court.

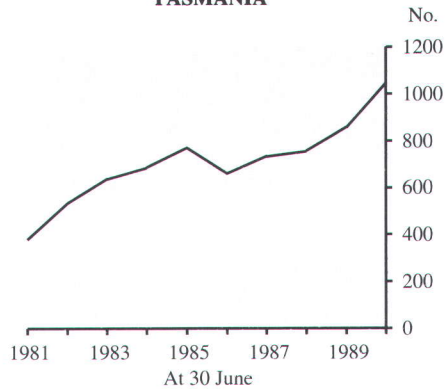
Legal advice, covering legal rights and problems including appropriate referral and sources of further advice, is provided free of charge by government and government-funded agencies. Legal assistance most often involves representation in court but may also cover drafting of documents, legal negotiation and a range of complementary and other services.

Legal assistance is generally subject to means testing and to the merits of the prospective case. The primary provider is the Legal Aid Commission of Tasmania, through its salaried solicitors or via private practitioners. A basic function of the scheme is the provision of duty solicitors at magistrates courts and the prison.

Community Legal Centres (CLSs) provide alternatives to mainstream legal aid. Voluntary lawyers and community workers offer advice to clients, primarily during evening sessions. Referral and assistance with self-help are the primary forms of assistance given. Because of the high level of demand on their services, CLSs have become involved in community legal education and in advocating specific law reform issues. The release in 1988 of the *Law Handbook*, a comprehensive but non-technical guide to the law and legal services in Tasmania, is an example of the educational role of the CLSs.

Other agencies which provide more specialised legal aid services include the Aboriginal Legal Service, the Human Rights and Equal Opportunities Commission and the Child Support Agency.

COMMUNITY SERVICE ORDERS, TASMANIA



(Source: Department of Community Services, Annual Report 1989-90).

The service has a total complement of 54 permanent officers, 34 of whom are field officers. It works closely with officers of the Mental Health Services Commission, the Department of Community Welfare, the Prison Service and the Police and is essentially a community-based operation involving close liaison with families, private relief agencies, public departments concerned with human problems and law enforcement.

While there is a significant component of welfare work involved, the Service conducts over 200 prosecutions annually against persons failing to discharge satisfactorily, the conditions and obligations set down in their Supervision or Community Service Orders.

During 1989-90, 1463 persons (1274 males and 189 females), were subject to supervision orders. The majority of supervisions were either community service orders (48 per cent) or single probation orders (44 per cent). Forty-nine per cent of female supervisions related to single probation orders, while 43 per cent related to community service orders. The majority of male supervisions, on the other hand related to community service orders (48 per cent) with single probation orders accounting for 43 per cent. Almost 60 per cent of all orders relate to persons under 25 years of age.

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Chapter 5

PUBLIC FINANCE

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Chapter 5

PUBLIC FINANCE

The public sector is defined as that part of economic activity which is owned and or controlled by government. It consists of three tiers, Commonwealth, State, and local. In the case of Commonwealth and State agencies they are responsible to their respective parliaments.

An area of economic activity which is excluded from Government finance statistics is the financial public sector. This includes those institutions which are financial in nature, such as banks or insurance companies, which are owned or controlled by Government.

State Government agencies are classified as belonging to either the General Government sector or the Public Trading Enterprises (PTE) sector. General Government agencies are mainly engaged in the production of goods and services outside the normal market mechanism. The costs of production are mainly financed from public revenues. These goods and services are often free of charge, or provided for at a nominal cost well below their cost of production.

On the other hand, Public Trading Enterprises are mainly engaged in the production of goods and services for sale in the market place. The intention is to maximise returns to their owners, to recover, as a minimum, a substantial part of costs.

Government transactions are classified according to the Economic Transactions Framework (ETF) which deals with the nature of the financial transactions. The ETF is made up of four major groups: current outlays, capital outlays, revenue and grants received, and financing transactions.



*State Treasury building.
Photo: Stuart Jackson*

Taxes, fees and fines revenue are further detailed by a separate classification. Current and capital outlays are also classified according to the purpose of the transactions using the Government Purpose Classification.

In this chapter the Commonwealth is only included in so far as it is the source of much of the money, in the form of grants, to the State Government and local government.

5.1 STATE GOVERNMENT FINANCE

Examples of State Government departments and agencies include the Department of Education and the Arts, the Health Department, Police and Emergency Services, the Hydro-Electric Commission, and the Tasmanian Development Authority.

5.1.1 State General Government Sector

Current and Capital Outlays

There has been a steady increase in current outlays over the past six years. In 1988-89 this expenditure was \$1389 million, an increase of 8.6 per cent over \$1279 million for the previous year. In 1989-90 current expenditure was \$1597 million which was an increase of 15.0 per cent over 1988-89. In 1990-91 current expenditure was \$1756 million. This was an increase of 10.0 per cent over the 1989-90 figure.

One of the noteworthy trends of General Government expenditure over the recent years has been the increasing percentage of current outlays going to interest payments, peaking in 1989-90. In 1987-88 this was 17.8 per cent (\$228 million), in 1988-89 it was 19.5 per cent (\$271 million). In 1989-90 it was 20.0 per cent (\$319 million) and in 1990-91 it was 18.1 per cent (\$317 million).

General government capital outlays in 1988-89 were \$333 million, an increase of 24.3 per cent compared with \$268 million in 1987-88. This followed a decline of \$2 million from \$270 million in 1986-87 to \$268 million in 1987-88. In 1989-90 capital outlays had declined by \$77 million to \$256 million. In 1990-91 capital outlays fell to only \$166 million. This was due to decreases in expenditure on fixed assets and net advances paid.

Revenue and Grants Received

The proportion of income from Commonwealth funds has declined in recent years, from 64.1 per cent in 1986-87 (\$851 million), to 60.6 per cent in 1987-88 (\$863 million), and 57.5 per cent in 1988-89 (\$880 million). In 1989-90 it remained steady at 57.6 per cent (\$1012 million) and it declined again in 1990-91 to 55.5 per cent (\$983 million).

5.1 GENERAL GOVERNMENT TRANSACTIONS TASMANIA (\$ million)

Transactions	1988-89	1989-90	1990-91p
Current expenditure -			
Final consumption expenditure	972	1 087	1 231
Interest payments	271	319	317
Subsidies paid	39	75	75
Personal benefit payments	24	21	21
Current grants	83	95	111
Total	1 389	1 597	1 756
Capital expenditure -			
Expenditure on -			
new fixed assets	232	204	136
second-hand fixed assets	-15	-41	-23
land and intangible assets	3	4	2
Capital grants to -			
PTEs	47	72	71
local government	9	8	9
other sectors	1	1	1
Advances to -			
PTEs	14	-15	-21
local government	2	—	1
other sectors	41	23	-10
Total	333	256	166
Revenue & grants received -			
Taxes, fees and fines	419	464	526
Income from PTEs	10	18	16
Income from State public financial enterprises	3	8	6
Interest from -			
PTEs	86	83	78
Other sectors	88	126	115
Other property income & other revenue	43	47	48
Commonwealth Grants	880	1 012	983
Total	1 530	1 757	1 772
Financing transactions -			
Net advances received	12	-18	-77
Net domestic borrowing	128	253	83
Net overseas borrowing	25	50	13
Other	27	-189	131
Total financing transactions (a)	192	95	149
Deficit (b)	192	95	149
Net financing Requirements (c)	180	113	226

(a) Current plus capital outlays minus Revenue and grants.

(b) Financing transactions minus Increase in provisions.

(c) Deficit minus Net advances received.

(Source: ABS Catalogue Nos 5501.6, 5501.0).

5.2 STATE GENERAL GOVERNMENT FINAL CONSUMPTION EXPENDITURE TASMANIA (\$ million)

Expenditure item	1988-88	1989-90	1990-91p
General public services	94.7	108.3	126.9
Public order and safety	90.4	97.3	110.6
Education -			
Primary and secondary	224.1	249.2	229.2
Tertiary	100.0	119.6	124.6
Other	36.3	29.4	49.3
Health	259.5	291.5	304.5
Social security and welfare	23.6	25.7	26.1
Housing and community amenities	6.0	5.2	3.7
Recreation and culture	25.0	28.4	30.1
Agriculture, forestry, fishing and hunting	41.5	48.6	43.3
Mining, manufacturing and construction	6.4	6.7	6.3
Transport and communications	25.2	33.1	40.0
Other	39.3	44.2	136.6
Total	972.1	1 087.1	1 231.1

(Source: ABS Catalogue Nos. 5501.6, 5512.0).

In part this decline has been compensated for by an increasing percentage of funds from taxes, fees and fines, from 23.4 per cent in 1986-87 (\$310 million), 25.8 per cent in 1987-88 (\$367 million), and 27.4 per cent in 1988-89

(\$419 million). In 1989-90 taxes, fees and fines was 26.4 per cent of revenue, and in 1990-91 it was 29.7 per cent (\$526 million), historically the highest proportion yet.

Final Consumption Expenditure

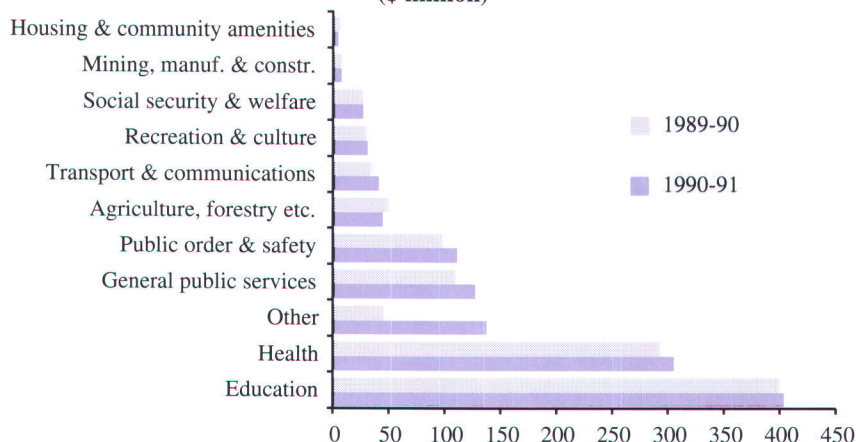
General government final consumption expenditure maintained the same general pattern of previous years. Education continues to be the category of Government Purpose Classification with the largest final consumption expenditure. In 1990-91 Education outlays were 32.7 per cent of final consumption expenditure (\$403.1 million), slightly down from 36.6 per cent in 1989-90 (\$398.2 million). Health's final consumption expenditure in 1990-91 was 24.7 per cent (\$304.5 million), slightly less than in 1989-90 when it was 26.8 per cent (\$291.5 million).

5.1.2 Public Trading Enterprise Sector

In recent years State Governments, including the Tasmanian State Government, have welcomed profits from public trading enterprises (PTEs) as a way of catering for increasing demand for general government services.

At the same time, the Commonwealth Government and State Governments have made it a high priority to put on a more sound commercial footing many undertakings which

GENERAL GOVERNMENT: FINAL CONSUMPTION EXPENDITURE (\$ million)



were previously providing services at a cost way below the market value.

Sometimes this has resulted in general government agencies economising. Sometimes it has resulted in agencies being created which are PTEs in nature.

Because of the market orientation of PTEs, many of the categories that are useful in general government are not considered as relevant for PTEs.

For example, wages and salaries for staff in PTEs are considered to be a part of *operating expenditure*. That is, they are ultimately reflected as a part of the *net operating surplus* within *Revenue and Grants Received*. However, in general government, wages are considered a part of *Current Outlays*.

Within current expenditure, total transfer payments to the State General Government (which consist of interest payments plus income transferred) have been steadily rising. In 1986-87 total payments were \$90 million, in 1987-88 were \$94 million, in 1988-89 were \$96 million, in 1989-90 were \$101 million, and in 1990-91 were \$94 million.

5.1.3 Total State Government Sector

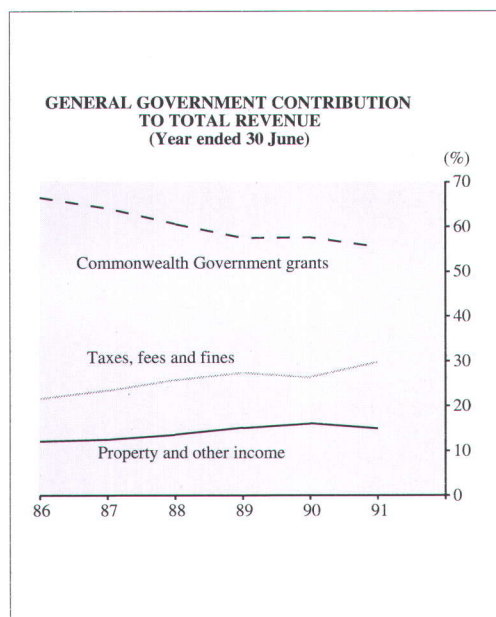
Data for the total State Government sector have to be interpreted carefully. For example, certain transactions between General Government and PTE agencies are consolidated out of the Total State sector transactions.

Expenditure on New Fixed Assets

Total expenditure on new fixed assets in 1990-91 was \$336 million, and in 1989-90 was \$380 million. This compared with \$425 million in 1988-89.

The Fuel and Energy category accounted for the largest percentage of new fixed assets expenditure at 39.8 per cent in 1990-91 (\$133.8 million). In the case of the Tasmanian economy this means expenditure mainly for the Hydro-Electric Commission. This was higher than the 30.7 per cent in 1989-90 (\$116.6 million) and 28.9 per cent in 1988-89 (\$122.7 million).

The major expenditure items in this category in recent years were the King Hydro-Electric Project (\$82.4 million, in 1990-91, \$60.6 million in 1989-90 and \$70.7 million in 1988-89) and the Anthony Hydro-Electric Project (\$41.9



million in 1990-91, \$40.6 million in 1989-90 and \$44.6 million in 1988-89).

5.3 TOTAL STATE GOVERNMENT: NEW FIXED ASSETS EXPENDITURE (\$ million)

	1988-89	1989-90	1990-91
General public services	14.9	23.6	14.9
Public order and safety	18.0	8.5	10.3
Education -			
Primary and secondary	37.0	44.8	20.9
Tertiary	8.8	4.3	4.8
Other	0.2	—	0.2
Health	38.1	23.4	12.9
Social security and welfare	1.7	1.1	1.7
Housing and community amenities	54.1	44.2	35.3
Recreation and culture	19.0	11.9	6.7
Fuel and energy	122.7	116.6	133.8
Agriculture, forestry, fishing and hunting	8.0	6.9	5.5
Mining, manufacturing and construction	0.7	1.1	0.4
Transport and communications	93.0	85.7	82.7
Other economic affairs	8.8	8.0	6.1
Other purposes	—	—	—
Total	424.9	379.9	336.3

(Source: ABS Catalogue Nos. 5501.6, 5512.0).

Public Trading Enterprises - Tasmania

Government Printer
Hobart Regional Water Board
Housing
Hydro-Electric Commission
Marine Boards -
 Burnie Port Authority
 Marine Board of Circular Head
 Marine Board of Flinders
 Marine Board of Hobart
 Marine Board of King Island
 Port of Devonport Authority
 Port of Launceston Authority
Metropolitan Transport Trust
North West Regional Water Authority
Port Arthur Historic Site Management Authority
Public Trustee
Rivers and Water Supply Schemes -
 Coal River Irrigation
 Cressy-Longford Irrigation
 Davy Point Drainage
 Furneaux Drainage
 Lobster Rivulet Improvement
 Meander Valley Irrigation
 Montague River Improvement
 North Esk Regional Water Supply
 Prosser River Water
 Rubicon River Improvement
 Togari Water Supply
 Welcome River Drainage
 West Tamar Water Supply
 Western Creek and Dale Brook
 Improvement Scheme
Winnaleah Irrigation
Southern Regional Cemetery Trust
Stanley Cool Stores Board
Tasmanian Dairy Industry Authority
Tasmanian Grain Elevators Board
Tasmanian Totalizer Agency Board
Transport Tasmania - TT Line

5.2 THE FINANCES OF THE LOCAL GOVERNMENT SECTOR

Figures in this section are based on the system of Standardised Local Government Finance Statistics (SLGFS). Accordingly, they have a different conceptual basis to figures from other parts of this chapter. One of the important differences is that SLGFS data are often gross figures, whereas other data in this chapter are often net amounts, and distinguishes between trading activities and ordinary service activities.

The trading activities of Local Government in Tasmania are water supply and sewerage disposal. All other activities are classified as ordinary services. These include garbage and waste disposal, roads and footpaths, drainage, health inspection, parks, recreation facilities, gardens, cemeteries, and community centres.

5.4 STATE PUBLIC TRADING ENTERPRISES TRANSACTIONS, TASMANIA(\$ million)

Item	1988-89	1989-90	1990-91
Current outlays -			
Interest payments	263	259	241
Income transferred to general government	10	18	16
Total	273	277	256
Capital outlays -			
Expenditure on new fixed assets	193	175	201
Expenditure on second-hand fixed assets	-31	-24	-8
Increase in stocks	-2	—	—
Other	2	2	-4
Total	162	153	189
Total current and capital expenditure	435	430	445
Revenue & grants received -			
Net operating surpluses	210	219	195
Interest received	40	32	22
Other property income & other revenue	2	5	4
Grants received	47	72	71
Total	299	328	292
Financing transactions -			
Net advances received	15	-15	-21
Net domestic borrowing	32	10	74
Net borrowing from abroad	21	-67	-4
Increase in provisions	88	89	100
Other financing transactions	-20	86	5
Total	135	103	153
Deficit (financing transactions less increase in provisions)	47	13	54

(Source: ABS Catalogue Nos 5501.6, 5501.0).

5.5 LOCAL GOVERNMENT ORDINARY SERVICES SELECTED TRANSACTIONS, TASMANIA (\$ million)

Item	1989-90	1990-91p
Revenue and Loan receipts-		
Rates	92.2	105.0
Interest	16.5	16.5
Government grants	34.0	36.0
Other revenue	48.5	48.3
Loan receipts	7.9	6.2
Total	199.1	212.0
Payments-		
Goods, services and land-		
Current	124.8	137.8
Capital	57.3	52.1
Interest	12.2	13.6
Debt redemption	6.7	7.2
Grants and levies to Governments	2.6	4.9
Other	3.5	3.6
Total	207.1	219.2

(Source: ABS Catalogue No. 5501.6).

5.6 LOCAL GOVERNMENT TRADING ACTIVITIES TASMANIA (\$ million)

Item	1987-88	1989-90
Current transactions -		
Income-		
Rates	76.2	84.2
Sales and charges	10.5	10.5
Other	5.6	6.0
Total	92.3	100.7
Current payments -		
Goods and services	56.5	54.7
Interest	11.1	14.0
Other	0.5	0.4
Total	68.1	69.1
Capital transactions-		
Source of funds-		
Loans	10.2	10.2
Other	18.4	17.7
Total	28.6	27.9
Use of funds-		
Land and fixed assets	22.5	21.8
Debt redemption	6.1	6.0
Total	28.6	27.9

(Source: ABS Catalogue No. 5501.6).

5.7 LOCAL GOVERNMENT LONG-TERM DEBT, TASMANIA (\$'000)

Details	1990-91
Source -	
Commonwealth-State	23 484
Public subscription	216
Financial institutions	187 838
Other	10 490
Total	222 027
Purpose -	
Ordinary services	106 392
Water	26 578
Sewerage	89 057
Total	222 027

(Source: ABS Catalogue No. 5501.6).

5.3 PUBLIC SECTOR DEBT

Increasingly throughout the 1980s - and now into the 1990s - the level of indebtedness of Australian State and Local Governments has been of interest to the community.

There are a number of reasons for this. For many it is concern at the size and proportion of the interest charges paid to service this debt. For others, it is the extent of debt carried by agencies for activities that might be more efficiently handled by the private sector.

In Tasmania in the non-financial public sector (excluding Government owned or controlled financial enterprises) the level of debt has been steadily rising over the past few years.

In 1988 debt rose by 5.3 per cent over debt for 1987. It is estimated that in 1989 debt rose by 5.9 per cent, and in 1990 that debt rose by a further 5.1 per cent.

Of all the Commonwealth and the other States (including the Northern Territory) in this time period — 1986-87 through to 1989-90 — only the Commonwealth itself and Queensland have reduced their level of debt.

In Tasmania over the 12 months period July 1987 to June 1988, the level of General Government indebtedness grew 10.6 per cent (from \$747 million to \$826 million). The level of

5.8 NET STATE GOVERNMENT DEBT, (\$million)

State	As at 30 June		
	1988	1989	1990
NSW	21 372	20 729	20 944
Vic	23 250	24 988	26 381
Qld	5 440	4 571	4 234
SA	4 210	4 238	4 649
WA	6 717	7 273	7 902
Tas	2 752	2 913	3 061
NT	868	943	1 108
Total	64 608	65 657	68 374

(Source: ABS Catalogue No. 5513.0).

Public Trading Enterprise indebtedness grew 3.4 per cent (from \$1864 million to \$1927 million).

5.4 STATE AND LOCAL GOVERNMENT TAXATION

5.4.1 State Government Taxation

State Government revenue from taxes, fees and fines rose by 13.9 per cent in 1988-89 (\$418 million) compared with 1987-88 (\$367 million), by a further 11.0 per cent in 1989-90 (\$464 million, and again by 12.9 per cent in 1990-91 (\$524 million).

5.9 TAXES, FEES AND FINES PER HEAD OF MEAN POPULATION (\$)

State/Territory	1988-89	1989-90	1990-91
NSW	1 536	1 631	1 691
Vic	1 444	1 535	1 615
Qld	1 097	1 174	1 222
SA	1 104	1 169	1 299
WA	1 263	1 320	1 376
Tas	1 125	1 239	1 376
NT	860	1 064	1 167
ACT	—	1 130	1 261
All States	1 355	1 436	1 508

(Source: ABS Catalogue No. 5506.0).

5.10 TAXES, FEES AND FINES COLLECTED, TASMANIA (\$ million)

Tax	1989-90	1990-91
Employers' payroll taxes	127	133
Taxes on property -		
Municipal rates	95	104
Other	96	120
Total	191	224
Taxes on provision of goods and services -		
Excises	11	12
Taxes on gambling	35	39
Taxes on insurance	15	17
Total	61	68
Taxes on use of goods and performance of activities -		
Motor vehicle taxes	54	57
Franchise taxes -		
Petroleum products	45	40
Tobacco franchise taxes	33	34
Liquor franchise taxes	14	16
Other	5	12
Total	152	159
Fees and fines	32	46
Total taxes, fees and fines -		
State Government	464	524
Local Government	98	107

(Source: ABS Catalogue No. 5506.0).

The largest contributor to State Government Taxation is employers' payroll taxes, which were \$133 million (25.4 per cent) in 1990-91.

5.4.2 Local Government Taxation

Rates continue to be the principal source of taxes, fees and fines revenue for Local Government.

Excluding rates collected by local government business undertakings (commonly water and sewerage), revenue from taxes, fees and fines rose by 10.8 per cent in 1988-89 (\$82 million) compared with 1987-88 (\$74 million), and by a further 15.9 per cent in 1989-90 (\$95 million), and again by 9.5 per cent in 1990-91 (\$104 million).

NEW OR ALTERED STATE TAXES

Year	Tax initiative
1986-87	Increase in a range of stamp duties including mortgage rates, conveyance rates minimum duty, etc. Increase in land tax minimums from \$10 to \$25. Increase in petroleum products business franchise fees from 6.5% to 14.75%. Introduction of financial institutions duty. Introduction of electricity consumption levy. Introduction of forest management charge.
1987-88	Increase in tobacco franchise fee from 35% to 50%. Introduction of ambulance service contribution. Introduction of 2% stamp duty on rental business.
1988-89	Increase from 6% to 7% in the rate of payroll tax for firms with payrolls over \$7.5 million. Revised forestry and mining royalty arrangements. Increase in the payroll tax exemption level and small business deduction.
1989-90	Ambulance contribution charge abolished. Stamp duty on video rentals abolished. Petroleum products business franchise fee reduced by one cent per litre. Land tax valuation factors were introduced whereby the value shown on the roll is varied in line with changes in property values for the purpose of calculating land tax.
1990-91	Three tier payroll tax scale abolished and replaced by a single 7% rate. Stamp duty on MAIB insurance premiums increased from \$4 to \$6. Exemption from petroleum franchise fee applying to diesel fuel for off road use abolished (limited rebate scheme introduced for primary producers). The petroleum franchise fee arrangements were extended to include LPG, town gas and home heating oil. The land tax scale was increased so an additional \$2 million would be recovered from rural land in 1990-91. Financial Institutions Duty rate increased from 0.04 per cent to 0.06 per cent. Tax applicable to video gaming machines in the Casinos increased from 15 per cent of gross profits to 20 per cent. Motor vehicle registration fees increased from \$22 to \$46 and on trailers \$10 to \$20. The rate of duty applied to the transfer of registration of more highly valued passenger cars increased from 3 to 4 per cent.

(Source: Dept of Treasury and Finance).

5.11 STATE TAXATION - INDEX OF RELATIVE SEVERITY

State	1986-87	1987-88	1988-89	1989-90
NSW	103.32	103.37	102.29	100.36
Vic.	111.54	109.76	108.67	107.75
Qld	70.83	71.29	75.94	77.32
WA	99.02	98.54	98.24	101.88
SA	96.31	99.56	98.81	99.22
Tas.	108.09	112.25	115.52	120.46
NT	88.94	95.43	91.40	98.24

(Source: Dept. of Treasury and Finance).

5.4.3 Tasmania, and other States and Territories

In 1990-91 taxes, fees and fines for both levels of government in Tasmania were \$1376 per head of mean population. Tasmania was ranked ahead of (in order) the Northern Territory, Queensland, the ACT and South Australia. The highest taxed state was New South Wales, followed by Victoria: Western Australia was the same as Tasmania, \$1376.

5.4.4 State Taxation Review

(The following is based on information kindly supplied by the Tasmanian Department of Treasury and Finance.)

5.12 STATE TAXATION LEVELS 1989-90

State	Taxation collections (\$ per capita)		Index of severity (a)
	Actual	Std (b)	
NSW	1 084.59	1 080.67	100.36
Vic.	1 109.19	1 029.40	107.75
Qld	705.47	912.41	77.32
WA	931.72	914.50	101.88
SA	775.69	781.81	99.22
Tas.	824.02	684.06	120.46
NT	827.66	842.51	98.24

(a) The index of severity is derived by dividing the actual revenue by the standardised revenue and multiplying by 100. This is a generally accepted basis of comparison of severity of taxation between the States.

(b) Std is the standardised taxation revenue collections and represents the revenue that would be raised by a State from the available tax base if it were to impose taxes at standard rates.

Uniform Presentation of Government Financial Information

Over the past decade, public attention has increasingly focused on Commonwealth and State Government finances. More detailed and consistent information is being sought by a wide range of users, to enable more accurate assessments of individual Governments' financial performances and to allow legitimate inter-governmental comparisons.

In response to these demands both the quality and presentation of information in Governments' budget papers and public accounts has improved markedly over recent years. These advances include; presentation of budget expenditure on a program rather than purely a line item basis; provision of some information on a Government Finance Statistics (GFS) basis by the Commonwealth and all States/Territories; and presentation of partial or full Consolidated Financial Statements by the Commonwealth and some States/Territories, though on different bases.

While substantial progress has been made individually, an inconsistent approach has remained a serious problem. At present, budget papers and public accounts are not directly comparable, due to differences in coverage of revenue, outlays, financing transactions, liabilities, assets and agencies. Budgetary, accounting and financial reporting formats and standards also vary between Governments.

Sensitive to these deficiencies, the Premiers' Conference in May 1990 commissioned Commonwealth, State and Territory Treasuries and the Australian Bureau of Statistics to report back to the next ordinary meeting of Premiers' Conference on ways to obtain greater uniformity in the presentation of public sector financial information.

Because of a number of years in which Commonwealth funding to Tasmania in real terms has decreased, the proportion of State revenue raised has increased.

Information provided in the Commonwealth Grants Commission's 1991 Update report indicates that Tasmania ranks third lowest of the States using actual revenue collected per capita as a measure of comparison. However, if an index of severity measure is used, Tasmania is ranked highest of all the States.

All Treasuries and the ABS recognise that a more common approach to presenting financial data would facilitate better understanding of individual budget papers. It would also permit more meaningful comparison of each Government's financial results and projections. Furthermore it would make it possible for the ABS to improve the accuracy and timeliness of its statistics for the public sector as a whole.

The recommendations by a working party of State and Commonwealth Treasury Officers and an ABS representative were for Commonwealth and State Treasuries in their Budget Papers to provide a common core of four statistical tables:

- A summary of transactions based on the Economic Transactions Framework (ETF) for General Government, Public Trading Enterprises, and Total State Government. The main categories in the ETF are current Outlays, Capital Outlays, Revenue and Grants Received, and Financing Transactions.
- Current and Capital outlays classified by the Government Purpose Classification (eg. Education, Health, Public Order and Safety) for Total State Government.
- Details of taxation revenue classified by the Taxes, Fees and Fines Classification.
- Levels of liabilities and financial assets.

These tables are to be phased in for the Budgets presented by Governments in 1993. With assistance from the ABS, Tasmania's Treasury has implemented all Tables except the levels of liabilities and financial assets for the Budget presented in 1992.

The steady increase in the severity of taxation in Tasmania relative to other States, reflects the introduction of tax measures over recent years.

Natural growth together with the full year effect of increases introduced in 1990-91 will ensure that State taxation collections will at least remain constant in real terms in 1991-92. Accordingly, it is unlikely that there will be any marked change in Tasmania's ranking relative to other States.

GLOSSARY OF TERMS

This chapter uses a number of terms which may be unfamiliar to readers. For ease of reference, they are grouped together.

Economic Transactions Framework: This Framework is used to classify economic transactions of government agencies. It applies to transactions between agencies, and between an agency and the rest of the economy. Transactions have four main groups: Current Outlays; Capital Outlays; Revenue and Grants Received; and Financing Transactions.

Current Outlays: There are three sub-groups of transactions in this group.

The first is *general government final consumption expenditure*. This relates to the net result to the government for the provision of goods and services. As governments invariably charge less than the cost of these services, a net payment results.

The second sub-group is *requited current transfer payments* and is where something is received in return, for example, rent in return for the use of land.

The third sub-group is *unrequited current transfer payments*. These payments are those where no direct benefit is received in return, for example, payment of personal benefits.

Capital Outlays: The sub-groups in this group deal with transactions on various types of assets which can be *gross fixed capital expenditure*, *increase in stocks*, *expenditure on land and intangible assets*, *capital transfer payments*, and *net advances* which are repayable.

Revenue and Grants Received: The sub-groups in this group relate to transactions that generate revenue for the government. The sub-groups are *taxes, fees and fines*, *net income transferred from Public Trading Enterprises*, *property income*, *grants received*, and *other miscellaneous revenue*.

Financing Transactions: Often, one of the items of interest in Budget information is the difference between outlays (both current and capital), and revenue and grants received. This difference is known as financing transactions. Financing transactions are the means by which governments finance their deficits or invest

their surpluses. Financing transactions include *net borrowings (domestic and overseas)*, *advances from other government agencies*, *changes in private trust funds*, *changes in cash and bank balances*, *net investments*, and *changes in provisions*.

Final Consumption Expenditure: General Government expenditure on the provision of goods and services is known as final consumption expenditure. It comprises *current expenditure on wages, salaries and supplements*, and *goods and services other than fixed assets and stocks*.

New Fixed Assets Expenditure: These are transactions which relate to payments for new fixed assets, such as dwellings and transport equipment. These transactions are found in both General Government and Public Trading Enterprises.

Government Purpose Classification: This classification categorises transactions in terms of the area of the economy for which the benefit is intended. Because of the nature of the federal system in Australia, State governments have large expenditures on education, health, and police.

Central Borrowing Authority: Tasmania has a central borrowing authority (CBA), as do most of the Australian States and Territories. In Tasmania the CBA is called the Tasmanian Public Finance Corporation, or Tascorp. Tascorp is the financing arm of the Tasmanian State Treasury. It is the agency through which a great deal of the lending and borrowing for other Government agencies is conducted.

Public Sector Debt: In general, the public sector is that part of the economy which is answerable to Parliament. However, excluded from this definition are those institutions belonging to the financial public sector. These include such agencies as Government owned banks, or insurance companies.

Public sector debt therefore includes debt of General Government agencies and Public Trading Enterprises.

This new definition, which includes the entire State Public Sector, gives a more comprehensive picture of the level of State debt.

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Chapter 6

POPULATION

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Chapter 6

POPULATION

The first sixty years of white settlement saw a fairly rapid population build-up, more than half of whom were, or had been, convicts. Although this rate of increase then diminished, by 1905 — 45 years later — the number of people had doubled. With a birth rate of less than one per cent to 1945, it took another 65 years to double again. At 30 June 1990 the resident population was estimated to be 456 660.

The first human inhabitants of what is now Tasmania arrived about 35 000 years ago, crossing the land bridge that then connected Tasmania to the mainland. Total numbers, before white settlement, have been estimated to have never exceeded 5000.

White settlement began in 1803 to secure British strategic interests against the French. In keeping with the penal nature of the early settlement, most of the population were convicts or government officials. At the census of 1847, just over 50 per cent of the total population of 70 000 people were, or had been, convicts. Less than 20 per cent were free immigrants.

Transportation was abolished in 1853. This, and emigration to Victoria after the discovery of gold there in 1851, at first caused a slump in population growth. The subsequent growth of mainland markets for Tasmanian primary produce, and important tin and gold discoveries in Tasmania in the early 1870s reversed this trend with a return to rapidly increasing population levels. The 15 years between 1861 and 1876 saw the population increase from 90 000 to 105 000. The next fifteen years to 1891 saw the population reach 147 000, an annual rate of increase more than double the previous period.

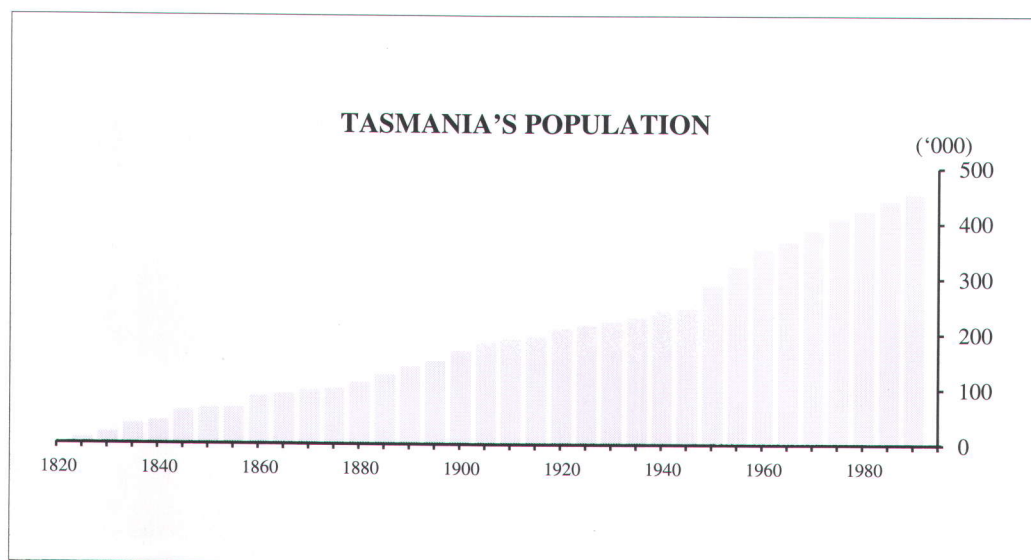
The effects of economic depression in Australia in the 1890s, whilst severe, were eased



*A fair at the Hobart Regatta Grounds, circa 1920.
Photo: Archives Office of Tasmania*

somewhat in Tasmania by the silver and copper mining boom on the West Coast. Tasmania's relative prosperity was reflected in a net migration in excess of 4000 per year from 1896 to 1899.

Whilst federation in 1901 meant free access to mainland markets for primary producers, many small manufacturers faced stiff competition from mainland firms. Economic stagnation, exacerbated by the petering out of the West Coast mining boom, was reflected in a drift of people to the mainland. Attracting manufacturing industries through the provision of cheap hydro-electric power came to be seen as a way out of the economic gloom. Whilst partly



successful, this was not wholly sufficient, especially during the economic depression of the late 1920s and 1930s. Rural industries, always important to Tasmania's economic well-being, were particularly affected by the depression. In the 35 years between 1900 and 1935, Tasmania's population grew at less than 0.7 per cent per year.

After World War Two, Tasmania shared in the prosperity of the Australian economy. The post-war baby boom and gains from overseas immigration resulted in an annual increase of 1.5 per cent in the 35 years 1945 to 1980, more than double the pre-war rate. Despite this growth, Tasmania still lagged behind the mainland States. In the same period, the Australian rate of growth was two per cent and, as a result, the proportion of the total Australian population living in Tasmania has decreased from 3.4 per cent in 1945 to 2.7 per cent in 1990.

6.1 POPULATION GROWTH

In the period 1972 to 1990, Tasmania's resident population growth was the lowest of all the States, recording a rate which was less than half that of Australia's.

In 1990, Tasmania experienced quite a high rate of population growth, reversing the downward trend of the previous three years. The rate for the year to 30 June 1990 was 1.22

6.1 POPULATION CHANGE BY STATE, AUSTRALIA, 1972 TO 1990 (year ended 30 June)

States and Territories	Estimated resident population		
	1972 ('000)	1990 p ('000)	Growth (%)
NSW	4 795.1	5 826.9	21.5
Vic.	3 661.3	4 379.8	19.6
Qld	1 898.5	2 906.8	53.1
SA	1 214.6	1 439.1	18.5
WA	1 082.0	1 633.8	51.0
Tas.	400.3	456.6	14.1
NT	92.1	157.3	70.8
ACT	159.8	285.1	78.4
Australia	13 303.7	17 085.4	28.4

(Source: ABS Catalogue No. 3101.0).

6.2 POPULATION GROWTH, TASMANIA (year ended 30 June)

	Growth	Rate (%)	Australian rate (%)
1983	2 960	0.69	1.38
1984	4 955	1.14	1.21
1985	5 068	1.16	1.34
1986	3 645	0.82	1.46
1987	1 468	0.33	1.53
1988	516	0.12	1.69
1989	2 499	0.60	1.78
1990	5 520	1.22	1.50

(Source: ABS Catalogue No. 3101.0).

6.3 RATES OF CHANGE OF MAJOR COMPONENTS OF POPULATION GROWTH, AUSTRALIA, (Year ended 30 June 1990) (%)

States and Territories	Natural increase	Net migration	Total growth
NSW	0.72	0.23	0.95
Vic.	0.78	0.57	1.35
Qld	0.83	1.73	2.56
SA	0.58	0.43	1.02
WA	0.99	1.46	2.45
Tas.	0.74	0.48	1.22
NT	1.73	-1.12	0.61
ACT	1.21	1.07	2.29
Australia	0.79	0.71	1.50

(Source: ABS Catalogue No. 3101.0).

per cent, which was over twice that of the previous year. This figure brought us closer to the Australian rate of growth which stood at 1.50%.

6.1.1 Natural Increase

Until the year ended 30 June 1987, Tasmania's rate of natural increase closely mirrored Australia's, which, in line with most of the developed world, has been gradually falling. The years 1987-88 and 1988-89 however, saw the Tasmanian rate fall below that for Australia.

6.4 NATURAL INCREASE, TASMANIA (year ended 30 June)

Year	Births	Deaths	Natural increase	Rate (%)	Australian rate (%)
1983	6 994	3 387	3 607	0.84	0.85
1984	7 106	3 441	3 665	0.85	0.84
1985	7 232	3 654	3 578	0.82	0.82
1986	6 974	3 656	3 318	0.75	0.78
1987	6 976	3 462	3 514	0.79	0.79
1988	6 704	3 646	3 058	0.68	0.77
1989	6 890	3 674	3 216	0.72	0.79
1990	6 918	3 574	3 344	0.74	0.79

(Source: ABS Catalogue No. 3204.6).

This trend continued in the year 1989-90, Tasmania's rate of natural increase was 0.74%, just below the Australian rate of 0.79%.

6.1.2 Migration

Overseas Migration

The pattern of overseas migration to Tasmania in recent years is one of continuing low levels. In the year ended 30 June 1990, the rate of Tasmanian population increase from net overseas migration was estimated to be 0.16 per cent, compared to the overall Australian rate of 0.72%.

6.5 NET ESTIMATED OVERSEAS MIGRATION, TASMANIA

Year ended 30 June	Tasmania			Australia	
	Arrivals	Departures	Net (a)	Rate (%)	Rate (%)
1983	1 918	1 275	611	0.14	0.48
1984	1 853	1 202	659	0.15	0.32
1985	1 964	1 255	769	0.18	0.47
1986	2 111	1 282	890	0.20	0.64
1987	1 992	1 282	795	0.18	0.74
1988	2 187	1 358	892	0.20	0.92
1989	1 998	1 406	592	0.13	0.83
1990	2 055	1 483	721	0.16	0.72

(a) Estimates of net overseas migration include an adjustment for 'category jumping'.

(Source: ABS. Catalogue No. 3204.6).

Interstate Migration

In 1989-90, there was a net gain of 1430 persons through interstate migration. This represented a reversal of the trend of the previous four years, in which there was an overall loss through migration to other states.

6.6 NET ESTIMATED INTERSTATE MIGRATION, TASMANIA

Year ended 30 June	Arrivals	Departures	Net	Rate (%)
1983	7 687	8 901	-1 214	-0.28
1984	8 334	7 639	695	0.16
1985	9 185	8 408	777	0.18
1986	9 664	9 802	-138	-0.03
1987	8 776	11 617	-2 841	-0.64
1988	9 715	13 149	-3 434	-0.77
1989	11 847	13 156	-1 309	-0.29
1990	13 258	11 828	1 430	0.32

(Source: ABS Catalogue No. 3204.6).

1991 CENSUS

On Tuesday 6 August 1991, Australia held its twelfth national census of population and housing. The census is the largest and most expensive collection undertaken by the Australian Bureau of Statistics and provides a detailed portrait of the Australian community. All persons residing in Australia on census night are included, the only exceptions being foreign diplomats along with their families, and foreign crew members on ships.

Data obtained as a result of the census provides a reliable basis for the estimation of population at State, Territory and local government area levels. These estimates are vital for both the distribution of government funds and electoral purposes. In addition, characteristics of small areas and small population groups are produced providing governments, businesses and other users with support for planning, administration and policy development.

Conducting a census is an on-going process, the development beginning well before the next census is due. A process of public consultation regarding the content and procedures to be adopted was undertaken, with this work culminating in an ABS view which was considered and ratified by the Parliament.

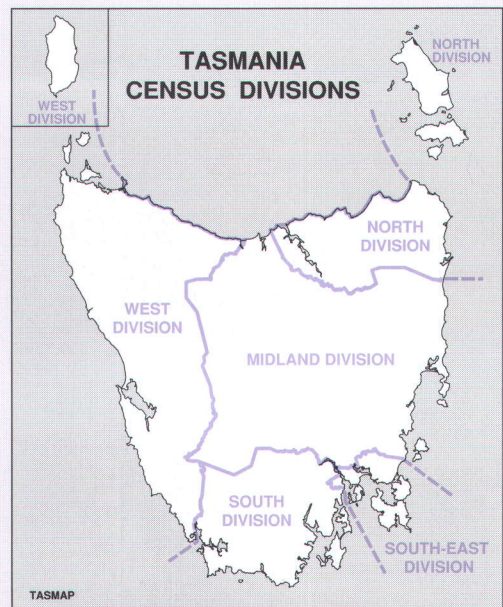
An important step in the planning process of the 1991 Census was an evaluation of the methods and procedures used in the 1986 Census. As a result of this process a number of changes were implemented to improve the operating systems for the 1991 Census. For the first time, the Australian Bureau of Statistics assumed complete responsibility for the management of the field operation phase of the collection. Another first was the capture of data directly from the forms using optical mark reading (OMR) technology. In addition, the 1991 Census saw an improvement in the quality and efficiency of office coding through the increased use of computer assistance and improved methods for training and payment of temporary staff.

Perhaps the most significant of these changes is that the entire census, including the coordination of the field stage, was conducted by the Australian Bureau of Statistics. Previously, management support for the census was provided by the Australian Electoral Commission through its Divisional Returning Officers, and

Census Divisions were aligned with Electoral Divisions.

To achieve an exclusively ABS administered census, Management Units, responsible for the conduct of census operations, local media liaison and other public relations activities, were set up in each State or Territory Office. Electoral Division boundaries were redesigned to create new Census Divisions which followed more logical lines of communication and Divisional Managers were recruited to coordinate the field operations. Each Divisional Manager was responsible for the secure delivery and collection of census forms to and from every household within their division, including the recruitment, training, payment and supervision of all temporary field staff. Support for the Divisional Managers was provided through the Census Management Unit.

Prior to the 1991 Census, Tasmania was divided into the 5 Electoral Divisions for census purposes: Braddon, Bass, Lyons, Franklin and Denison. Several administrative problems existed with these boundaries, particularly in Lyons which occupied a large band across the centre of the State. These boundaries were evaluated with a view to creating Divisions which aligned with local government area boundaries, yet incorporated both an urban and rural focus with at least one major population centre, reduced the distance problems existing



in Lyons, and consisted of approximately equal workloads. As a result of this restructuring process, Tasmania was divided into five new Divisions for the 1991 Census, each headed by a Divisional Manager. They were: West, North, Midlands, South and South-East.

The West Division consisted of the west and north-west coasts from Devonport to Strahan including King Island. It covered an area of 20 960 square kilometres and had an estimated population of 98 850 (June 1989). Allison Mellor was the Divisional Manager for West and was responsible for the coordination of 19 Group Leaders and 190 Collectors.

Headed by Malcolm Geeves, the North Division covered an area of 16 040 square kilometres in the north-east corner of the State. Extending from Beaconsfield and Launceston to Portland, including Flinders Island, the Division had an estimated population of 97 500 (June 1989). Twenty Group Leaders and 188 Collectors were employed to cover the North Division.

The largest Division geographically (27 050 square kilometres) yet, the smallest in population (63 930, June 1989) was the Midland Division. A total of 14 Group Leaders and 145 Collectors covered the area from Latrobe to Brighton, including the east coast, under the direction of John Kenny.

John Appleby was the Divisional Manager for the Division of South, which consisted of the most southern local government areas west of the Derwent River, excluding Hobart. Occupying an area of 9350 square kilometres and with an estimated population of 86 740 (June 1989), 14 Group Leaders and 154

Collectors were required to enumerate the Division. Also within John's responsibility was the coordination of census returns for those living in Australia's Antarctic Territory on 6 August 1991.

The South-East Division comprises the municipalities of Hobart, Clarence, Sorell and Tasman. Although the smallest of the five Divisions geographically (1590 square kilometres), South-East has the largest population (103 470, estimated at June 1989). Bob Leitch was responsible for the coordination of the 19 Group Leaders and 196 Collectors necessary to cover the area.

The field phase of the census is only one aspect of the entire census operations, another being the release of data. The first results from the 1991 Census were released by the ABS on 4 February 1992: First Counts for Statistical Local Areas, Tasmania. These preliminary data detailed population counts for all Tasmanian SLA's by sex and types of dwellings by Statistical Division.

Figures show that the number of people counted in Tasmania on 6 August 1991 was 452 847, the females (229 055) slightly outnumbering the males (223 792). A total of 181 838 or 40.2 per cent of the population was counted in the Greater Hobart Statistical Division, followed by the Northern (28.1 per cent), Mersey-Lyell (23.8 per cent) and Southern Statistical Division (7.8 per cent). With the exception of Mersey-Lyell, all Divisions reported marginal increases on population figures between censuses. The total number of private dwellings counted in Tasmania was 184 765.



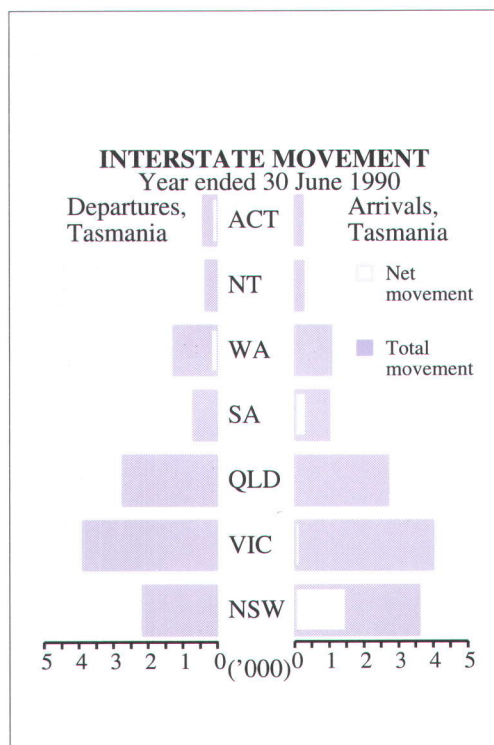
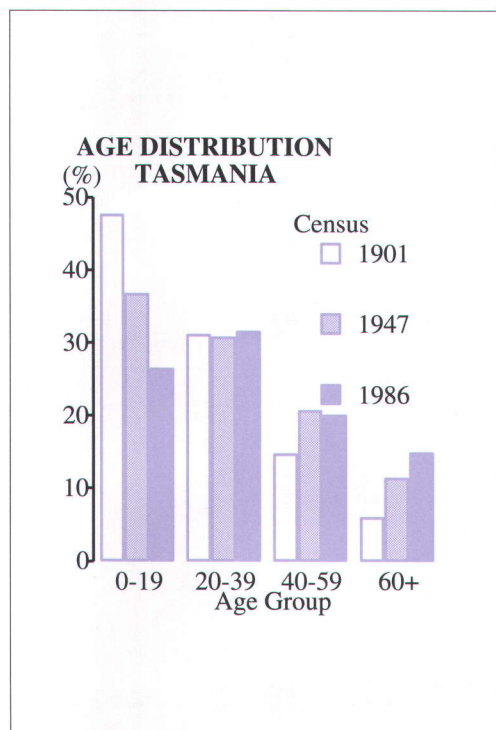
*Divisional
Managers and
the Tasmanian
Census Team*

6.2 POPULATION DISTRIBUTION

At 30 June 1990 the resident population of Tasmania was estimated at 456 660. On a regional basis, the Greater Hobart - Southern Region accounted for almost 47.8 per cent of the population, the Northern Region almost 27.9 per cent and the Mersey-Lyell Region just over 24.3 per cent.

Westbury, Kingborough, Sorell and Port Cygnet were the local government areas which have had the largest percentage increase in population since 1986; Westbury, with an increase of 1430, recorded the largest actual increase. Zeehan, down 900, King Island, down 250 and Lyell, down 280, recorded the heaviest percentage losses in population.

In terms of population distribution, Tasmania is the most decentralised State with nearly 60 per cent of the population living outside of the capital city statistical division.



Mobility

At the 1986 Census, 84 per cent of Tasmanian residents were living in the same dwelling as one year earlier, and 59 per cent were living in the same dwelling as five years earlier. These figures are notably similar to those for Australia.

Of those whose address was different one year earlier, 86 per cent reported that the address was in Tasmania. For those whose address was different five years earlier, this figure was 85 per cent.

For both periods the main destination of movements out of Tasmania and the source of movements to Tasmania was Victoria. Queensland gained most from *net* movements in the five year period and came a close second to Western Australia in the one year period. For both periods New South Wales provided the largest *net* gain for Tasmania.

Although Census data are useful to gain a measure of relative mobility, as the reference dates are merely two points in time, no information can be obtained for any movements in the

**6.7 ESTIMATED RESIDENT POPULATION IN LOCAL GOVERNMENT AREAS, TASMANIA
(at 30 June)**

<i>Local government area</i>	<i>1986</i>	<i>1990</i>	<i>Annual average rate of change 1986 to 1990 (%)</i>	<i>Proportion of State (%)</i>
Greater Hobart-Southern Region	211 950	217 990	0.7	47.7
Hobart	47 940	47 270	-0.4	10.4
Glenorchy	41 820	42 500	0.4	9.3
Clarence	46 740	47 700	0.5	10.4
Brighton	11 940	12 770	1.7	2.8
Kingborough	21 080	23 500	2.8	5.1
New Norfolk	10 050	10 100	0.1	2.2
Sorell	7 000	7 750	2.6	1.7
Bothwell	790	780	-0.3	0.2
Bruny	460	500	2.1	0.1
Esperance	3 200	3 270	0.5	0.7
Glamorgan	1 740	1 850	1.6	0.4
Green Ponds	1 100	1 170	1.6	0.3
Hamilton	2 500	2 420	-0.8	0.5
Huon	5 220	5 570	1.7	1.2
Oatlands	2 010	1 960	-0.6	0.4
Port Cygnet	2 790	3 040	2.2	0.7
Richmond	2 150	2 260	1.3	0.5
Spring Bay	2 020	2 080	0.7	0.5
Tasman	1 390	1 500	2.0	0.3
Northern Region	123 850	127 490	0.7	27.9
Launceston	63 210	63 430	0.1	13.9
Beaconsfield	15 840	16 860	1.6	3.7
Deloraine	5 460	5 630	0.8	1.2
Evandale	2 210	2 380	1.9	0.5
George Town	7 120	7 060	-0.2	1.5
Longford	6 400	6 770	1.4	1.5
Westbury	8 020	9 450	4.2	2.1
Campbell Town	1 460	1 380	-1.4	0.3
Fingal	2 880	3 100	1.9	0.7
Flinders	1 050	1 010	-1.0	0.2
Portland	2 860	2 980	1.0	0.7
Ringarooma	2 270	2 240	-0.3	0.5
Ross	500	470	-1.5	0.1
Scottsdale	4 560	4 730	0.9	1.0
Mersey-Lyell Region	110 670	111 180	-0.1	24.4
Burnie	21 070	21 300	0.3	4.7
Circular Head	8 020	8 030	0.0	1.8
Devonport	25 110	25 500	0.4	5.6
Kentish	4 710	4 920	1.1	1.1
King Island	2 050	1 800	-3.0	0.4
Latrobe	6 220	6 570	1.4	1.4
Penguin	5 450	5 640	0.9	1.2
Ulverstone	14 260	14 610	0.6	3.2
Wynyard	12 560	12 850	0.6	2.8
Lyell	3 940	3 660	-1.8	0.8
Strahan	520	550	1.4	0.1
Waratah	1 630	1 520	-1.7	0.3
Zeehan	5 130	4 230	-4.7	0.9
Total Tasmania	446 470	456 660	0.6	100.0

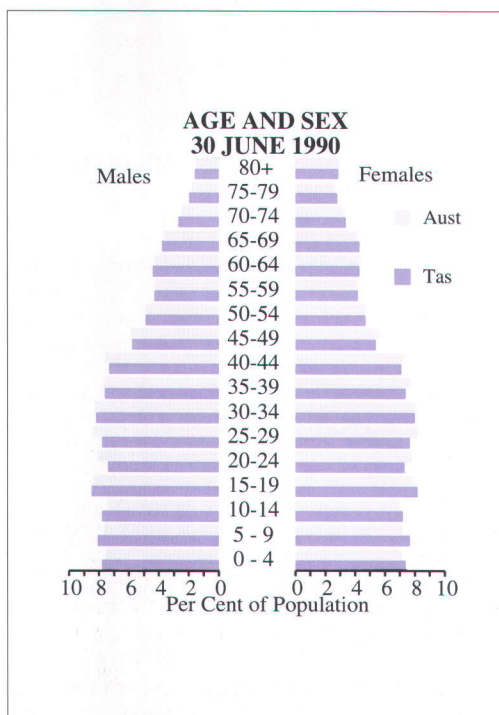
(Source: ABS Catalogue No. 3204.6).

intervening period. A measure of *total* interstate movements can be obtained from the estimates of internal migration used to produce intercensal population estimates. For the year ended 30 June 1990 these estimates confirm the position of Victoria as the main source *and* destination of permanent and long-term Tasmanian interstate movements. The relatively large number of departures to that State also resulted in the largest *net* loss to Tasmania, of all the States and Territories. States which followed were Queensland and Western Australia respectively.

6.3 CHARACTERISTICS OF TASMANIANS

6.3.1 Age

Tasmania's population continued to age as did Australia's. In 1990, the median age (the age where one half of the population is younger and the other half older) of Tasmania's population was 32.2 years, 1.6 years older than in 1986 and 3.3 years older than in 1981. By comparison, the median age of all Australians in 1990 was also 32.2 years. The age distribution of Tasmania's



population has also changed markedly over time. In 1901, 48 per cent of the population was

6.8 SEX BY AGE DISTRIBUTION, TASMANIA, (30 June 1990 p)

Age group	Males (number)	Females (number)	Sex ratio (males per 100 females)
0-4	17 790	16 960	104.89
5-14	36 000	34 460	104.46
15-24	36 130	35 540	101.66
25-34	36 290	35 940	100.97
35-44	33 780	33 310	101.41
45-64	43 780	42 890	102.08
65 and over	22 960	30 850	74.42
All ages(a)	226 720	229 940	98.60

(a) There may be discrepancies between totals due to rounding.

(Source: ABS Catalogue No. 3204.6).

aged below 20, compared with 33 per cent in 1986, and 31.4 per cent in 1990.

6.3.2 Sex

In 1990 the Tasmanian population contained an estimated 3220 more females than males. This excess of females is not distributed evenly,

6.9 MEDIAN AGE OF BRIDES (years)

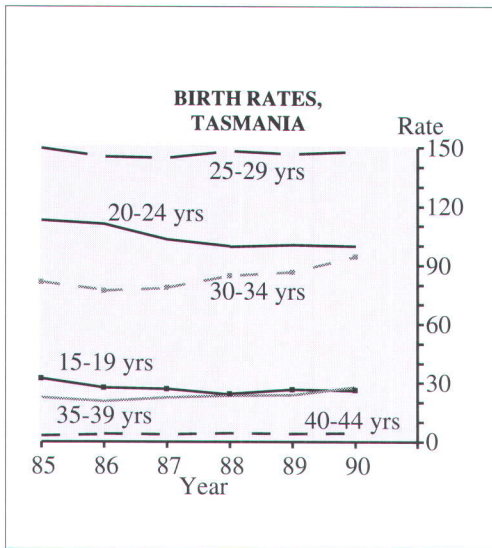
Year	Spinster	All Brides
1971	20.5	20.8
1981	21.6	22.6
1987	23.1	24.6
1988	23.5	24.9
1989	23.5	25.1
1990	23.5	25.3

(Source: ABS Catalogue No. 3311.6).

however, as there is a much higher number of females in ages over 60 years. In every other age group males outnumbered females.

6.4 FERTILITY

The late 1950s and early 1960s was a period of peak fertility in the post-war era before a decline in the mid 1960s, which continued steadily through the 1970s. The trend since 1980 indicates that a period of



stability may have been reached, but at a level only a little over 50 per cent of the 1961 rate.

Whereas prior to 1977 the most fertile age group was 20-24, this is now the 25-29 age group. The fertility rates of the under 20 and 20-24 age groups have been declining steadily during the 1970s and 1980s, while that of the 25-29 and 30-34 age groups have risen. Several factors have contributed to these trends including later marriage and an increasing period between marriage and the birth of the first child.

Since the early 1960s the median age for spinster brides has increased from about 21 years to 23.5 years in 1990. In the mid 1960s the median duration between marriage and the birth of the

6.10 NET REPRODUCTION RATES, TASMANIA AND AUSTRALIA

Year	Tasmania	Australia
1971	1.399	1.362
1981	0.995	0.925
1985	0.968	0.924
1986	0.889	0.895
1987	0.910	0.883
1988	0.935	0.881
1989	0.926	0.886
1990	0.954	0.914

(Source: ABS Catalogue No. 3311.6).

first child was about 12 months. This increased during the 1970s and in 1988 it was approaching 3 years. However, the last couple of years the median duration between marriage and the birth of the first child has fallen to the levels experienced in the early to mid 1980s.

The fertility rate, as measured by the net reproduction rate, is falling and since the early 1970s has been below replacement level. Except for 1986, the Tasmanian rate has generally been higher than the national rate.

6.5 LIFE EXPECTANCY AND MORTALITY

6.5.1 Life Expectancy

A measure often used to indicate changes in the health status of a community or to make comparisons between communities is life expectancy.

6.11 LIFE EXPECTANCY, AUSTRALIA (years)

Age (years)	1901-1910		1990	
	Males	Females	Males	Females
0	55.2	58.8	73.9	80.0
5	57.9	58.6	69.7	75.7
10	53.5	56.0	64.8	70.8
20	44.7	47.5	55.1	60.9
40	28.6	31.5	36.4	41.5
60	14.3	16.2	18.8	23.1
70	8.7	10.0	12.0	15.1

(Source: ABS Catalogue No. 3311.6).

tancy. This is the number of years that a person can, on average, expect to live past his present age, and is based on death rates of the population.

Reflecting the high infant mortality rates and death rates during the early years of life, life expectancy at age 0 in the early part of this century was less than at age 5. Improvements in hygiene and health care substantially reducing infant and early age death rates, has increased life expectancy at age 0 for both males and females. Expectation of life at age 0 for males has improved by 17.9 years since the beginning of the century and for females by 20.7 years.

At higher ages, the changes were minor until the 1970s. In 1970-72 life expectancy for males

aged 60 was 15.4 years compared with 14.3 years in the first decade of this century and for females 19.7 compared with 16.2 years. Since 1970-72 there has been a significant increase in life expectancy of 60 year olds; for males it has increased by 3.4 to 18.8 in 1990 and for females by 3.4 years to 23.1 years. Much of this improvement can be related to prevention and advances in treatment of diseases associated with the circulatory system such as heart attacks and strokes.

The increase in life expectancy means there is an increasing number of elderly people in the population, many of whom will be needing support services. At all ages females have a higher life expectancy than males.

6.5.2 Mortality

The 1970s and 1980s have been years of considerable improvement in mortality rates, particularly among the higher age groups, and infants. Improvements in age-specific death rates have been most marked among the age groups over 60 years with decreases of between 21 and 35 per cent for males and 18 and 34 per cent for females. The infant mortality rate has also fallen quite dramatically, from 20.3 per thousand live male births in 1960-62 to 9.7 in 1990 and from

17.3 to 8.2 among females. Nevertheless, the infant mortality rate is higher in Tasmania than for Australia.

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- Causes of Death* (3303.0), annual.
- Perinatal Deaths* (3304.0), annual.
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6.12 AGE-SPECIFIC DEATH RATES, TASMANIA

Age group (years)	Males		Females	
	1970-72	1990	1970-72	1990
Under 1	17.8	9.7	11.5	8.2
1-4	1.0	0.3	0.7	0.8
5-9	0.5	0.2	0.4	0.2
10-14	0.6	0.3	0.3	0.2
15-19	2.4	1.1	0.6	0.5
20-24	2.0	1.5	0.5	0.4
25-29	1.8	1.6	0.8	0.5
30-34	1.8	1.9	0.8	0.4
35-39	2.1	1.7	1.3	0.7
40-44	3.4	1.9	1.9	1.2
45-49	5.3	3.2	3.0	2.4
50-54	9.5	6.9	5.6	3.0
55-59	15.5	10.2	8.0	6.5
60-64	25.2	18.2	12.4	9.6
65-69	39.5	29.7	21.3	13.7
70-74	62.2	51.2	36.5	22.5
75-79	91.9	74.0	60.9	42.7
80-84	164.0	113.7	135.5	72.4
85 and over	-	201.8	-	165.6

Chapter 7

LABOUR AND THE WORKPLACE

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Chapter 7

LABOUR AND THE WORKPLACE

Over the last two decades the Tasmanian labour force as well as the conditions under which people are either employed or not employed have undergone significant changes. Whereas in the early 1960s an unemployment rate of three per cent was considered unacceptably high, it is now above eleven per cent. In response governments, both Commonwealth and State, have devised schemes to create additional jobs and training opportunities as well as to alleviate the financial hardship resulting from the loss in income.

Women now comprise a significantly greater proportion of the labour force than at any time since the Second World War. This has been a leading factor in moves against discrimination in employment and working conditions on the basis of sex.

Changes have also occurred in the work environment. Earnings have increased substantially although in many cases hours worked have decreased. The concept of a basic wage has been replaced by that of a total wage incorporating the idea of a minimum wage to be applied equally to males and females doing work of equal value.

Australia's conciliation and arbitration system, established early this century, has resulted in a level of unionism unparalleled anywhere in the Western world. The system of periodic national wage cases that has ensued has reinforced the union as a cornerstone of the Australian system of industrial relations. This has given workers' organisations wide ranging responsibilities and powers in maintaining and regulating working conditions. For example, legislation in Tasmania has given specific and extensive powers to safety representatives elected to monitor workplace conditions and practices.



Women at work.

Photo: Tasphoto Services

7.1 THE LABOUR FORCE

In June 1991 there were 217 200 Tasmanians or 61.3 per cent of the State's working age civilian population in the labour force (either working or looking for work) in seasonally adjusted terms.

7.1.1 Participation in the Labour Force

Historically, the Tasmanian labour force participation rate has been lower than the national average. Over the last few years however, participation rates in Tasmania have risen more quickly than the national average and the gap has narrowed.

By far the largest movements in participation in Tasmania over the last few years, have been increases among females. In June 1978 males made up 66.8 per cent of the Tasmanian labour force; by June 1991 this proportion had fallen to 58.5 per cent even though the actual numbers of males participating increased. Female participation climbed from a rate of 38.6 per cent in June 1978 to 50.1 per cent by June 1991 with an additional 31 500 females in the labour force.

Between 1981 and 1991 the participation rate for males of all age groups declined. At the early ages, this reflects the higher probability that young people remain in education after the legal leaving age, while at the older end of the

age spectrum it reflects continuing trends towards earlier retirement. While these comments are equally applicable to females, female participation rates have risen for all age groups between 20 and 64. This reflects a number of factors including greater social recognition of working females (especially those married with children), the economic requirement for some female partners to work and the opening up of jobs, notably part-time jobs, in the services sectors, an area traditionally dominated by female employment.

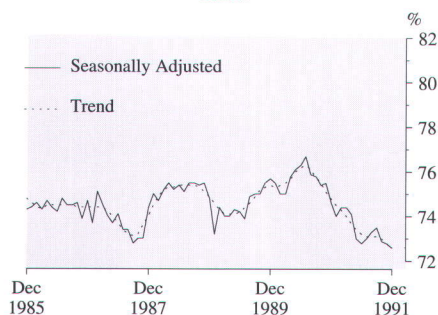
7.1 LABOUR FORCE PARTICIPATION RATES, TASMANIA, MALES (%)

Age group	At June	
	1981	1991
15-19	66.2	59.3
20-24	90.9	86.4
25-44	95.9	93.2
45-54	92.3	86.5
55-64	63.9	58.5
65+	11.0	7.3
Total	77.3	72.5

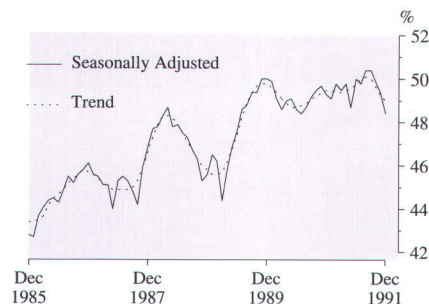
7.2 LABOUR FORCE PARTICIPATION RATES, TASMANIA, FEMALES (%)

Age group	At June	
	1981	1991
15-19	60.6	56.9
20-24	62.4	77.9
25-44	48.8	65.9
45-54	49.8	64.2
55-64	18.2	21.3
65+	1.4	1.2
Total	41.0	49.7

PARTICIPATION RATE, TASMANIA Males



PARTICIPATION RATE, TASMANIA Females



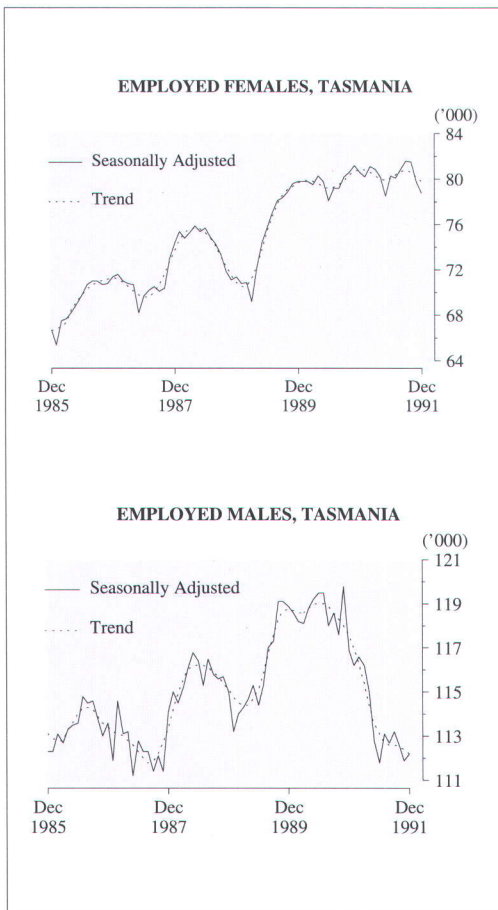
7.1.2 Employment

Employment of both males and females in Tasmania increased during the 1980s. In June 1991 there were 191 800 persons employed in Tasmania, in seasonally adjusted terms, up from 183 300 in June 1986.

Employment growth has been dominated by an increase in female employment. Female employment growth was particularly strong dur-

ing 1989 with an annual growth rate of 11.8 per cent compared with a growth of males employed of 3.3 per cent. Male employment peaked at 119 700 in November 1990 and female employment at 82 200 in September 1991.

However, in the 12 months to December 1991 Tasmanian employment fell by 3.3 per cent (males 4.0 per cent, females 2.4 per cent). The average decrease across Australia during this period was 2.0 per cent (males 2.7 per cent, females 1.0 per cent).



Full-time and Part-time Employment

Over the last decade, there has been little growth in male full-time employment. There has been growth in part-time male employment although it is still at a very low base. In June 1991 there were 11 500 males employed part time in Tasmania, more than double the numbers measured up to the mid-1980s.

For females, similar patterns emerge, with little long-term growth in females employed full-time but significant growth in part-time female employment. In June 1978 there were about 21 000 part-time females employed in Tasmania. These numbers rose fairly steadily to reach 37 300 in June 1991.

Tasmanian females have the second highest propensity for part-time work of any State in Australia. In June 1991, 46.5 per cent of all females employed in Tasmania worked part-time; for Australia, 41.3 per cent of all employed females worked part-time.

Employment Sector

Tasmania has the highest proportion of any State of its employees in the public sector, 32.0 per cent in February 1991. This proportion has remained relatively stable for the last two years. Of the 46 800 public sector employees in Tasmania in February 1991, 33 800 worked for the State government, 9200 worked for the Commonwealth government and 3800 for local government.

Occupational Sector

The occupational distribution for males and females in Tasmania is quite different. Males are far more likely to be employed as managers and administrators, professionals, tradespersons or plant and machine operators and drivers. The dominant occupational groups for females are clerks, and sales and personal service workers.

Regional Employment Patterns

As expected, Tasmania's regional employment pattern reflects population distribution throughout the three regions. In June 1991, the Hobart and Southern regions with 93 500, employed 49 per cent of all the State's employed persons, the Northern region 54 100 and the Mersey-Lyell region 43 900.

In the twelve months to June 1991, the number of persons with jobs in the south (Hobart and Southern Statistical Divisions) decreased by 2.6 per cent, while employment loss in the Northern Statistical Division was 0.6 per cent and 5.8 per cent for the Mersey-Lyell Statistical Division.

Industry Distribution

Data on the industry distribution of Tasmanian employees continues to show the importance of the community services sector. This

sector employed 24.5 per cent of all Tasmanian employees in February 1991, down from 25.6 per cent in February 1988. The other large industry sectors were manufacturing (16.9 per cent, the same as three years ago) and wholesale

and retail trade (19.5 per cent up from 16.4 per cent).

The industry distribution differs for males and females. For males, the distribution is more even with the manufacturing sector being the most important with just under one quarter of all employees.

The next most likely employers of males were the community services and wholesale and retail trade sectors. For females, the community services industry dominates, covering nearly 40 per cent of all employed females in Tasmania. The wholesale and retail trade sector is the next most important followed by recreational, personal and other services.

Hours Worked

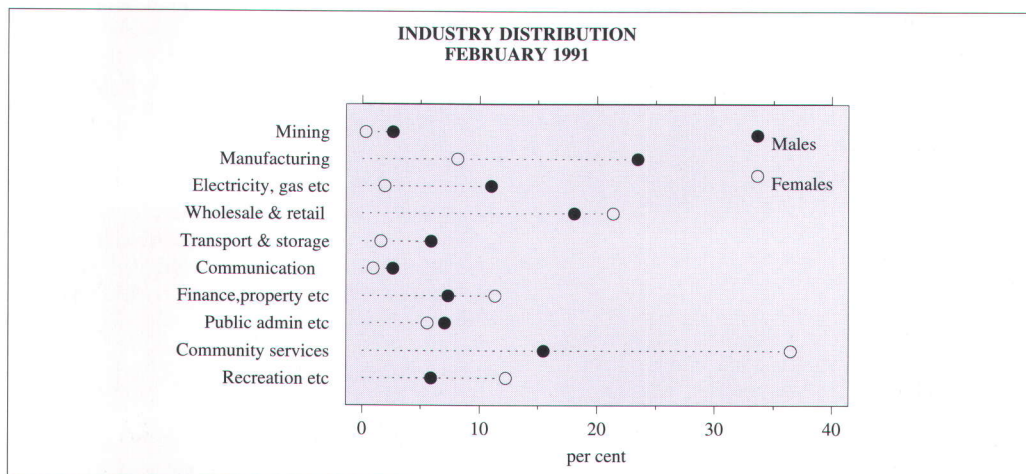
Average weekly hours worked vary considerably each month and are heavily influenced by the incidence of public holidays and, to a lesser extent, school holidays. On average, full-time males work longer hours than full-time females.

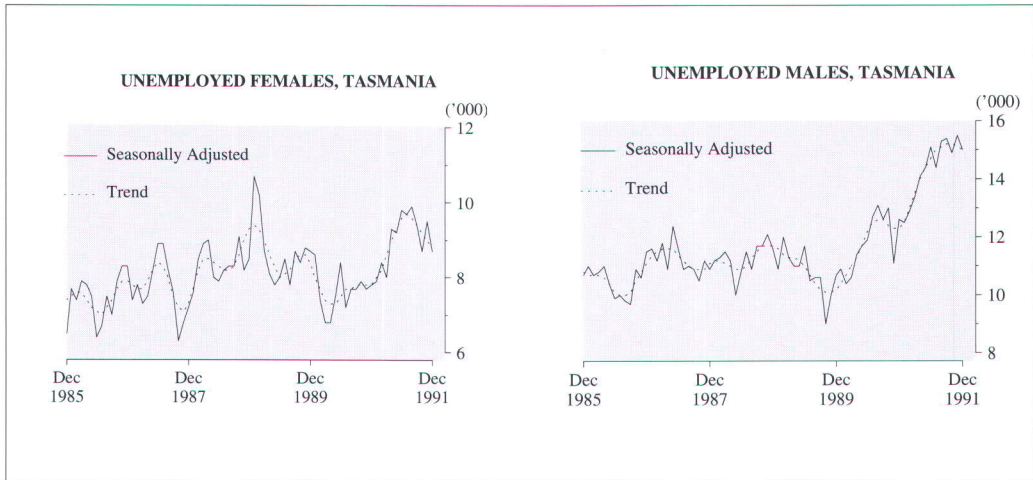
Over the last few years, Tasmanians have generally worked less overtime than the national average. In August 1991 the average weekly hours of overtime worked by all employees in Tasmania was 1.00 hour, just lower than the national average of 1.07 hours per week.

The proportion of all employees working overtime in Tasmania is also lower than the national average. In August 1991, 14.6 per cent of all Tasmanian employees worked overtime compared with the national average of 15.7 per cent.

7.3 INDUSTRY EMPLOYMENT DISTRIBUTION, TASMANIA (%)		
<i>Industry</i>	<i>February 1988</i>	<i>February 1991</i>
Mining	1.9	1.6
Manufacturing	16.9	16.9
Electricity, gas and water, construction	8.4	7.1
Wholesale and retail trade	16.4	19.5
Transport and storage	4.5	4.0
Communication	2.1	1.9
Finance, property and business services	8.4	9.0
Banking	2.0	2.1
Non-bank finance investment and insurance	1.8	2.2
Property and business services	4.5	4.7
Public administration and defence	5.8	6.4
Community services	25.6	24.5
Health	12.3	11.6
Education, museum and library services	9.2	8.8
Welfare and other community services	4.1	4.0
Recreation, personal and other services	9.4	8.6
Total all industries	100.0	100.0

(Source: ABS Catalogue No. 6248.0).





Persons Employed at Home

There were 7300 persons employed at home in Tasmania in April 1989, 3.9 per cent of all Tasmanian employed persons. They were people who usually worked more hours at home than elsewhere in their job or business (excluding farmers and their assistants).

Sixty per cent were females and 55 per cent were family members with children under 14 years. A quarter of those employed at home were clerks, 21 per cent were tradespersons and 20 per cent were professionals.

Labour Mobility

Just over 12 per cent of Tasmanians who had worked at some time during the year to February 1991 had changed their job. This compares with the national average of 14.1 per cent. Tasmanians aged 20-24 years were the most mobile (29.1 per cent), consistent with the national trend.

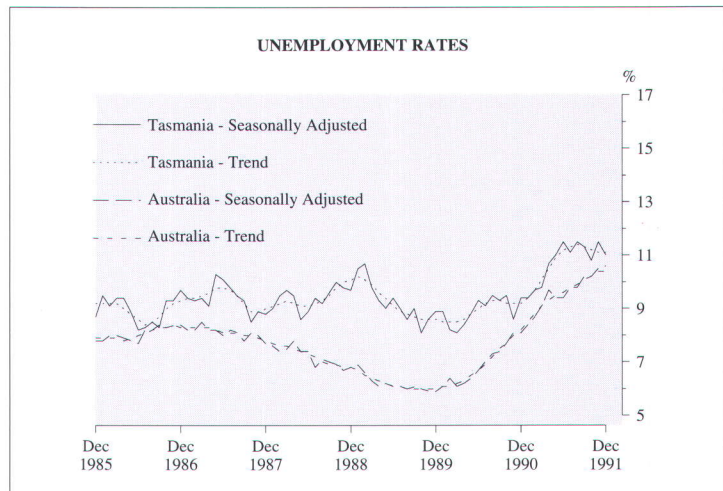
Of the 41 500 Tasmanians who were working in February 1991, and who had been in their current job for less than one year, 22 per cent were in the wholesale and retail trade industries and 16 per cent worked in community services. Twenty three per cent were labourers and related workers and 18 per cent were salespersons and personal service workers.

Seventy-nine per cent of those Tasmanians working in February 1991 had worked for one year or more in their current job. Tasmanians were far more likely than average Australians to have remained in their current job for a long time. Over one quarter of Tasmanians employed in February 1991 had been in their current job for 10 years or more, significantly higher than the 32 per cent for all Australians.

7.1.3 Unemployment

Unemployment remains high in Tasmania. In June 1991 there were 25 400 Tasmanians unemployed on a seasonally adjusted basis. This was 56 per cent higher than the number unemployed in June 1986.

In the twelve months to June 1991 the number of Tasmanians unemployed rose by 22.1 per



7.4 AGE DISTRIBUTION OF UNEMPLOYED, TASMANIA, JUNE 1991(%)

Age group	Proportion of population (a)	Proportion of unemployed
15-19	10.4	21.2
20-24	9.8	21.2
25-34	20.0	26.4
35-44	19.4	17.4
45-54	13.8	9.5
55+	26.5	4.4
Total	100.0	100.0

(a) 15 years and over.

cent in line with the increase recorded nationally of 40.6 per cent.

There are some interesting patterns emerging from an analysis of changes in regional unemployment during the twelve months ended June 1991. While unemployment increased strongly for all of Tasmania from 19 900 in June 1990 to 24 400 in June 1991, all regions recorded increases: Mersey-Lyell Statistical Division had the bigger increase of 2300 (43 per cent) followed by the Northern Division with 1300 (24 per cent and the Hobart and Southern Division with 800 (9 per cent).

The unemployment rate in Tasmania has consistently remained one of the highest of all States over the last few years. The seasonally adjusted unemployment rate for June 1991 was 11.7 per cent, while the average for all Australia was 9.3 per cent.

Youth Unemployment

Unemployment is particularly severe amongst young people. In Tasmania, persons aged 15-24 years comprise 20.2 per cent of the State's civilian population aged 15 and over. However, this age group accounts for 42.4 per cent of all Tasmania's unemployed.

Hidden Unemployment

As levels of unemployment rose the term 'hidden unemployment' became widely used to describe those who, although failing to satisfy the statistical criteria as unemployed, nevertheless do have some commitment to gain work. The term 'hidden unemployment' is used to refer to people who, while neither employed nor

actively seeking work when surveyed, would seek work if the demand for labour should improve or other considerations would change to allow them to seek work. However, precise measurement is difficult. People wanting to work include a range of potential workers, from genuinely discouraged jobseekers to people with family commitments whose interest in finding employment may be unlikely to be realised.

In September 1990 there were 23 400 people who, although neither working nor officially 'unemployed', nevertheless indicated this kind of marginal attachment to the labour force. Of those marginally attached 90 per cent wanted to work and were available to start work in four weeks but were not actively looking for work, 80 per cent were females, 70 per cent would prefer to work part time.

Job Vacancies

The tightness of the Tasmanian labour market is clearly seen when the total number of people looking for work is compared with the number of vacancies available with employers. While unemployment has remained above 20 000 in Tasmania over the last few years, the number of job vacancies estimated has been around 1000, a ratio of less than one vacancy for every 20 persons seeking work.

The vacancies have been split fairly evenly between the public and private sectors although over the last year private sector vacancies have increased slightly. Tasmania's job vacancy rate remains below the national average.

7.2 EMPLOYMENT, EDUCATION AND TRAINING

The quality of Australia's future workforce skills will depend not only on the basic education and initial preparation provided to young people, but also on the development and continuous upgrading of skills in the adult workforce. Traditional skill requirements have already undergone significant change as a result of the rapid spread of micro-electronic applications in the manufacturing and service industries, and further changes will inevitably occur under the influence of continuous improvements in technology.

Consequently, government is moving on a number of fronts to make education and training systems more attuned to the new requirements for skills demanded by our changed economic circumstances.

Education and the Labour Market

Participation in the labour force varies according to educational attainment. In February 1991, persons who had obtained post-school qualifications had a participation rate of 80.9 per cent, significantly higher than those with no post-school qualifications (64.1 per cent).

Of persons with a post-school qualification, those with a trade qualification or apprenticeship had the highest participation rate (87.7 per cent) followed by persons with a degree (86.3 per cent) and persons with a certificate or diploma qualification (73.6 per cent).

The overall proportion of males with post-school qualifications was 41.0 per cent, considerably higher than the estimate of 31.3 per cent for females, but both were lower than the Australian rates of 46.2 and 35.4 per cent respectively.

Seventy per cent of the 22 400 estimated unemployed persons in February 1991 had not obtained a post-school qualification. The unemployment rate for those without a tertiary qualification was 13.2 per cent. This compared with an unemployment rate of 6.2 per cent for Tasmanians with a post-school qualification.

Transition from Education to Work

Of the 25 300 Tasmanians aged 15 to 64 who attended a school at some time in 1990, there were 7500 who had left school by May 1991. Of this number, 31 per cent were attending a tertiary institution, lower than the national average (52 per cent) of school leavers continuing on to tertiary education. Of those not attending a tertiary institution, 3200 were employed while those unemployed comprised 21 per cent.

In 1990, 9600 Tasmanians left full-time education. Of these, 64 per cent were employed in May 1991 and 25 per cent were unemployed. The unemployment rate among leavers was 28 per cent and the labour force participation rate was 89 per cent.

Nearly one-quarter of employed leavers found jobs in the wholesale and retail trade sector, 17 per cent in the community service sector, 16 per

cent in recreation, personal and other services and 12 per cent in manufacturing.

Of the 3400 employed persons who had left a tertiary institution, 30 per cent had become managers and administrators or professionals. On the other hand, of the 2700 leavers from schools who were employed in May 1991, 28 per cent were sales persons and personal service workers and 23 per cent were labourers and related workers.

7.2.1 The Commonwealth Employment Service

The CES delivers a wide range of programs to assist disadvantaged people to seek and gain employment.

7.5 CES STATISTICS, TASMANIA

	1989-90	1990-91
Jobseekers registered	80 910	65 397
Vacancies reported	27 852	21 663
Vacancies filled	22 919	18 814

(Source: DEET Annual Report 1990-91).

Newstart

Newstart provides assistance and incentives to long-term unemployed people (18-54 year olds, unemployed for over 12 months) to help them get back into the workforce. Help includes counselling, assessment, placement in other programs and a payment to help with the extra expenses involved in going back to work.

Job Search Training Program (JSTP)

The JSTP was introduced in recognition of the fact that vocational skills alone are not always the determining factor in obtaining a job; while many jobseekers are capable of undertaking the employment they seek, a sizeable proportion lacks the necessary knowledge of how the labour market actually operates, and the skills to effectively look for and obtain satisfactory employment.

Job search training courses are spread over three to five days and cover aspects such as choosing a job, contacting employers and keeping the job. Job clubs, the other element of the program, offer a much more intensive and comprehensive coverage of job search techniques

and practical exercises, such as writing applications and interviewing techniques.

The needs of professionally qualified job seekers are served by Professional Employment Services Offices in the major centres of population and business.

In its attempts to increase employment prospects of job seekers, the CES provides counselling and support services for groups with particular difficulties and needs. These include youth, people with disabilities, Aboriginals and migrants.

7.2.2 Commonwealth Government Assistance Schemes

SkillShare

SkillShare was introduced in January 1989, integrating the former Community Youth Support Scheme (CYSS), Community Training Program (CTP) and Community Volunteer Program (CVP). Program delivery is through the Commonwealth funding projects sponsored by community organisations or local government authorities. The aim of SkillShare is to assist long-term and other most disadvantaged unemployed people to gain employment, or to move on to further education or training.

Activities include structured skills training with an appropriately balanced combination of job specific skills, job search skills and personal effectiveness skills; open access services including volunteer referral activity, ad hoc job search training, employment related personal support and referral services, general work skills and personal effectiveness training, work related excursions and limited recreational/hobby activities; and enterprise activities through income generating activities and training in small business skills.

Information Technology Centres (ITeC) specialise in providing structured skills training in electronics and computer applications. Services include promotion of information technology applications to the broader community through their open access and encouraging new and existing small business by providing information technology support.

Jobtrain Program

This program assists disadvantaged job seekers, such as the long-term unemployed, to increase their competitiveness in the local

labour market through the acquisition of marketable skills.

Short-term training up to a maximum 12 months duration is provided through established or specially contracted courses designed to meet local labour market needs. Preparatory training may also be approved to enable participants to undertake skills training.

Jobstart Program

Jobstart, provides a 20-week wage subsidy to employers who provide jobs to job seekers who have experienced long periods of unemployment or face other disadvantages in obtaining employment.

Assistance is offered to employers if they are prepared to pay at least the award or appropriate wage for the job and fulfill other award conditions.

Heavy-engineering Adjustment and Development Program

This scheme was introduced to assist with the restructuring and revitalising of the heavy-engineering industry. Assistance is provided to heavy-engineering firms to upgrade and enhance the skills of existing employees, including assistance with the training of specialised trainers and supervisors. This assistance is linked to improvements in work practices and more effective utilisation of existing and new technology.

In addition, a package of formal training, wage subsidy and relocation assistance is provided for workers retrenched from heavy-engineering firms, including eligibility for labour-market-orientated formal training, relocation assistance and eligibility for wage subsidy assistance.

7.2.3 State Government Employment and Training Schemes.

This section relates to the activities at the Tasmanian Department of Employment, Industrial Relations and Training (DEIRT) for the year ending 30 June 1990. On 1 August 1990 the State Government formally established four distinct Divisions for the Department. These were: Training; Industrial Relations and Employment Services; Corporate Services; and Adult Education.

The major objectives of DEIRT's Employment and Training Program from July 1989 were as follows:

- To increase the level of employment within Tasmania;
- To ensure the timely supply of an appropriately skilled workforce;
- To provide timely and accurate advice to government on employment and training matters; and
- To ensure that all Tasmanians seeking employment will have an equal opportunity to acquire marketable skills.

Employment Programs

Programs operated during 1989-90 included: Tasmanian Employment Program; Employment Tasmania and Taswork Local Employment Initiatives.

The Branch was also involved in the NEIST scheme to assist unemployed people into self-employment, and Jobmatch to assist the intellectually disabled into competitive employment. Programs were run throughout the State.

Tasmanian Employment Program

This program, which commenced in September 1984, provided a subsidy to employers as an incentive to take on additional staff who had previously been unemployed.

In the life of the program some 2870 new positions were created. The program terminated in 1988 with Employment Tasmania taking its place. Ninety grants were yet to be finalised at 30 June 1990.

Employment Tasmania

Employment Tasmania retained the best of the TEP program but was a more flexible operation designed to meet the specific needs of employers. The package comprised seven programs which provided incentives for employers to:

- increase their employee levels by taking on a disadvantaged person; and
- become involved with formal training for employees.

The programs were: Build a Business; Jobshare; Tasmania Taswork II; Tasmanian Young Managers; Add an Apprentice; and Traineeships Tasmania.

Some 1027 full-time positions were created for long-term unemployed people and 729 additional apprenticeships were generated in a broad cross-section of Tasmanian industry.

A moratorium was placed on applications in November 1989, but grants contracted before then continued to provide subsidies to assist employers to maintain positions.

Taswork II

The George Town Taswork project closed in December 1989. It was replaced by a Local Employment Initiative. Further Taswork projects were developed in Beaconsfield and Zeehan.

In line with the cessation of the Employment Tasmania program, funding considerations required the cessation of Taswork II by September 1990.

Local Employment Initiatives

This program was developed in response to the Tasmanian Employment Summit held in November 1989. It channeled Government effort into creation of an appropriate climate for private sector development of employment opportunities.

New Enterprise Incentive Scheme

The New Enterprise Incentive Scheme Tasmania (NEIST) Program was a joint State/Commonwealth Program which invited applications from people registered as unemployed, were drawing Social Security benefit and who had a good business idea to develop into a viable business.

It offered a seven-week business skills course, during which time applicants were provided with a full-time training allowance. Applicants prepared a business plan which was submitted for loan funding.

If a loan was approved the Commonwealth provided income support for the first year of business operation.

Jobmatch

Jobmatch Inc. was a non-profit incorporated body which strove to place people with disabilities in open employment. At 30 July 1990 over 160 people were registered with Jobmatch of whom 30 were placed in open employment and monitored regularly.

7.6 APPRENTICES, TASMANIA, 1990-91

Trade group	Commence- ments	Comple- tions	Apprentices in training at 30 June 1991
Metal	216	232	1142
Electrical	87	111	470
Building	160	192	842
Printing	18	25	91
Vehicle	92	104	485
Food	156	96	514
Other	248	195	892
Total	977	955	4436
Females	198	118	605
Males	779	837	3831

(Source: Training Authority of Tasmania, Annual Report 1990-91).

Training Programs

The Training Branch serviced the Training Authority of Tasmania and developed policies and programs for implementation by the Authority. It was responsible for administering vocational training programs in line with Authority policies.

The Department played an important and active role with employers, educationists and young people in the administration of the apprenticeship system and the growing Australian Traineeship System.

Apprenticeship

The apprenticeship system has provided workforce skills for many years and it continues to be the most important vocational training system within the State.

The industry restructuring process has placed even greater emphasis on apprenticeship training and has identified the need to adopt competency based standards. As part of this procedure, training in each trade or occupation will be reviewed to accord more closely with industry requirements.

Career-path developments are creating an environment where post-trade or advanced training is becoming more universally required. Apprenticeships must link into and provide a sound base for these levels of training.

The initial review and upgrading of apprenticeship and post-trade training must complement, and therefore follow, the industry

restructuring process. This review may take up to ten years to complete and developments must ensure that once upgraded, the apprenticeship is constantly reviewed and improved to keep pace with technological and social change.

The number of people training under the apprenticeship system continued to increase during 1989-90 to the highest levels ever.

Traineeships

The aim of the Australian Traineeship System is to provide an effective form of vocational training for those who wish to enter the workforce. It complements the apprenticeship system and provides links to further education in the TAFE and higher education systems.

The program is jointly funded by the State and Commonwealth governments and is administered in Tasmanian by the Division of Employment and Training.

7.7 TRAINEESHIPS TASMANIA, 1990-91

Traineeship	Number of trainees commenced	Number of trainees completed
Office skills	274	114
Concrete worker	11	6
Hospitality	76	20
Insurance	14	7
Local government, maintenance & construction	25	14
Furniture removalist	4	1
Freight forwarding	8	4
Textile	—	—
Telecom	—	—
Rural	104	35
Retail sales	267	88
Silviculture	16	7
Plant operations	6	5
Banking	45	30
Mining, ore, milling	13	11
Forestry (tree harvesting)	8	—
Pulp & paper processing	15	9
Credit union/Building society	1	—
Food processing	7	—
Seafood processing	9	—
Warehousing	11	4
Total	914	355

(Source: Training Authority of Tasmania, Annual Report 1990-91).

In a typical traineeship, a young person is employed for a period of one year which includes 13 weeks full-time off-the-job training spread throughout the year.

The remainder of the year involves workplace training to ensure competence is gained in specific skill areas relevant to the position. After successfully completing the year, the trainee gains a certificate which provides accreditation throughout Australia and which, in many cases, links into higher level training and education courses.

Competency Based Training

Following the decision by the Training Authority of Tasmania to convert existing trades to a competency based system of training and assessment the Training Development Unit (TDU) was established in June 1989.

A pilot jointly funded by Commonwealth and State governments involved the development of seven trades (six Automotive and one Textile) under the Vocational Training and Assessment System (VTAS) guidelines.

Women in Trades

DEIRT piloted the Women in Trades program in August 1989. The program was devised to promote the increased participation of eligible women in the trades presently dominated by men through job search guidance and preparation, pre-arranged employer commitment and direct placement assistance.

7.3 THE WORKING ENVIRONMENT

7.3.1 Earnings

For much of 1988 and early 1989 real wages in Tasmania rose — that is, the annual increase in average weekly earnings for full-time adults in Tasmania was higher than the annual growth in the Hobart Consumer Price Index (CPI).

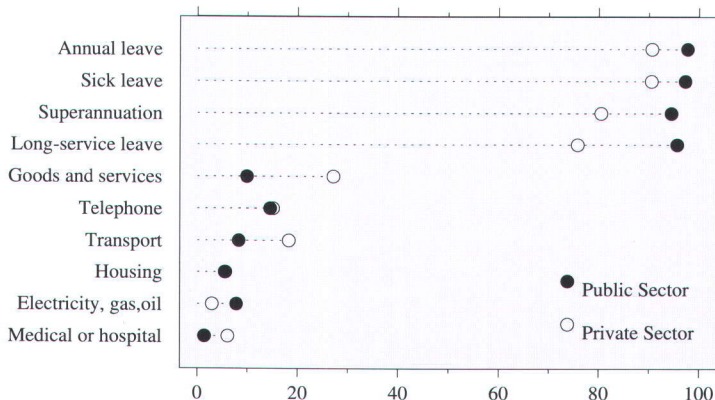
This period followed nearly three years when real earnings fell. Since the end of 1989, the annual movement in the CPI has increased by more than the annual change in average weekly earnings.

In May 1991, the average weekly earnings for full-time Tasmanian males was \$593.50, while for females it was \$484.50, both lower than the national average of \$632.70 for males and \$512.40 for females.

For the year to May 1991, average weekly earnings for all Tasmanian male employees rose by 1.0 per cent (1.7 per cent for full-time adult males); those for all female employees rose by 5.5 per cent over the year (4.8 per cent for full-time adult females).

These increases were generally less than the national averages.

PROPORTION OF ALL EMPLOYEES WHO RECEIVED PARTICULAR BENEFITS



7.3.2 Employment Benefits

While the propensity for males and females working full-time or part-time to receive benefits were similar, the fact that a much higher proportion of females worked part time meant that 82.3 per cent of female employees received a benefit compared with 93.6 per cent of males in August 1990.

The most common benefits received were leave provisions: 77.3 per cent of all Tasmanian employees received annual leave, 77.3 per cent sick leave and 68.2 per cent received long service leave. A superannuation benefit was received by 58.9 per cent of Tasmanian employees, slightly higher than the national average (51.6 per cent).

Employees in the public sector were more likely to receive an employment benefit than their counterparts in the private sector (94.7 per cent and 86.3 per cent respectively). They were more likely to receive sick leave (89.7 per cent versus 71.6 per cent), annual leave (88.6 per cent versus 72.2 per cent), long-service leave (88.2 per cent versus 59.2 per cent) and superannuation (73.0 per cent versus 52.6 per cent). On the other hand Tasmanian private sector employees were more likely to receive benefits such as goods and services, housing, transport and assistance with medical and hospital expenses and union dues.

There was some variation in benefits received across the various industry sectors. At least one benefit was received by all employees in the electricity, gas and water industry, while 98.0 per cent of employees in the mining and 91.4

per cent of employees in the communication industries received benefits.

For the recreational, personal and other services sector, however, only 68.4 per cent of employees received a benefit, although it should be remembered that a large proportion of employees in this sector work on a part-time or casual basis.

For some types of benefits, receipt of the benefit was predominantly associated with employees in a particular industry. Of the 2.4 per cent of all employees who received low-interest finance as a benefit, 66.9 per cent worked in the finance, property and business services sector. Nearly 32 per cent of all those who received a housing benefit were employed in the agriculture or mining sectors, while 51.1 per cent of those who received shares, rights or options as an employment benefit worked in the manufacturing sector.

7.3.3 Major Labour Costs

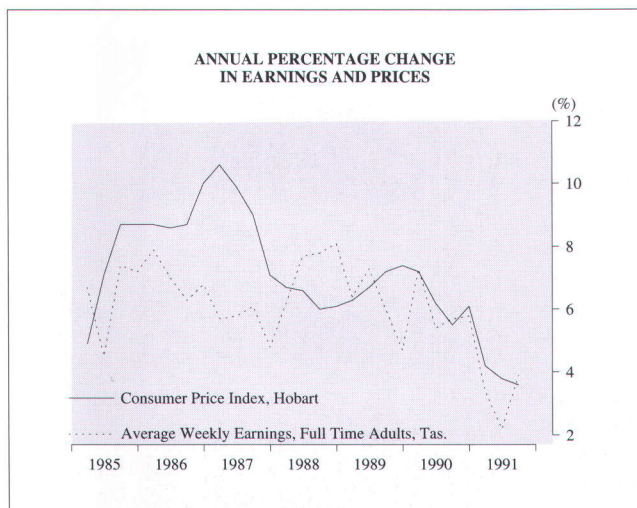
Tasmanian employers were estimated to have spent \$4003 million on labour costs during the year ended 30 June 1990. Estimated expenditures in Tasmania on labour cost items included in the survey were: employee earnings (\$3639 million); and other labour costs (\$364 million) were made up of payroll tax (\$126 million), superannuation (\$168 million), workers compensation (\$56 million), and fringe benefits tax (\$14 million).

The average cost of employing labour in Tasmania in 1989-90 (\$25 975 per employee) was well below the national average of \$27 777.

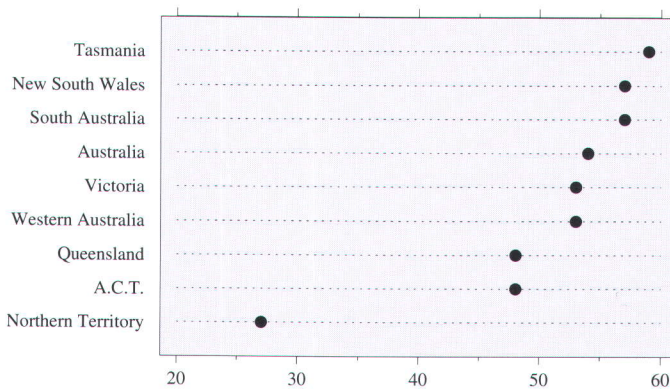
In Tasmania the average cost per employee for private sector employers was \$24 548 compared with \$28 999 for public sector employers.

7.3.4 Wage Fixing

In Australia two sets of authorities regulate wages and salaries: the Australian Industrial Relations Commission (AIRC) with federal jurisdiction; and various State tribunals; (in Tasmania, the Tasmanian Industrial Commission). In Tasmania approximately 35 per cent of employees are covered by federal awards and about 51 per cent by State awards.



TRADE UNION MEMBERS, 1990
Proportion of total employees



Over the twelve months to June 1991, the weekly award rates of pay indexes rose by 1.9 per cent for Tasmanian adult males and by 2.4 per cent for Tasmanian adult females, similar to the national average.

During the twelve months to June 1991, for full-time adult males in Tasmania, the largest annual increases occurred in the manufacturing industry (3.2 per cent) and the mining sector (4.0 per cent), while the smallest pay rises (0.4 per cent) were received by male employees in the finance, property and business services sector. For females the largest increase was recorded in the wholesale and retail trade industry (4.1 per cent). The lowest increase was the 0.3 per cent rise for employees in the finance, property and business services sector

7.3.5 Trade Unions

Tasmania has the highest rate of trade union membership of any Australian State.

At the end of June 1990 there were 121 separate unions in Tasmania, accounting for a total membership of 95 700 (62 400 males and 33 000 females). Tasmania's union membership increased by 1.4 per cent in 12 months.

Tasmania maintained the highest proportion of trade union members to total employees for both males and females; 68 per cent of all male employees and 48 per cent of females were trade union members. Nationally, 62 per cent of male employees and 43 per cent of females were trade union members.

7.3.6 Industrial Disputes

The current level of industrial disputation in Tasmania is relatively low compared both with the recent past and with the experience in other States. For the twelve months to December 1990, 10 700 working days were lost due to industrial disputes in Tasmania. This followed 1989 and 1988 when 10 200 and 18 600 working days were lost respectively and compares with the early 1980s when 50 000 to 60 000 days were lost each year.

The level of industrial disputation reached a record low in April 1991. For the twelve months ended April 1991 there were 47 working days lost per thousand employees in Tasmania, the lowest of any State, and the lowest in Tasmania since this statistic was first introduced on a monthly basis in December 1981.



Striking workers at APM's Burnie plant, June 1992.

Photo: The Mercury

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Chapter 8

SPORT, RECREATION AND CULTURE

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Chapter 8

SPORT, RECREATION AND CULTURE

Tasmania's sporting, religious and cultural heritage is drawn from a number of diverse environments, ranging from the lifestyle and culture of the Tasmanian Aborigines prior to European settlement through to the world-wide appeal of the World Rowing Championships held at picturesque Lake Barrington.

Prior to European settlement of Tasmania at the beginning of last century, sport, recreation and culture, as many of us think of it today, was unknown or unrecognised by the new colonists. However, the Aboriginal peoples who had settled the 'island' over 35 000 years before had maintained an intricate lifestyle and culture. Evidence of this culture is revealed at numerous archaeological sites around the State.

Notable sites include the rock carvings at Mt Cameron West and High Rocky Point, an ochre quarry at Louisa Bay, hand stencils on cave walls and rock faces in the Southwest and Derwent Valley, and a stone arrangement at Cox's Bight. Some of the hand stencils, made with a mixture of ochre, blood and animal fat, date back over 10 000 years. The carvings at Mt Cameron West have been dated to 1600 BP.

Tasmanian Aboriginal song, dance and religion

Tasmanian Aborigines may have had a simple material technology, but their spiritual and artistic lives were rich and complex.

Song and dance seem to have been their main forms of entertainment and artistic expression for their thoughts on life, love and death. Their songs were melodious and sweet, and three-part harmony sung by women was often heard. This



*Aboriginal rock carvings, Mt Cameron, 1973.
Photo: Archives Office of Tasmania*

is very uncommon in the Australian context. Their melodies too were unusual and had more in common with island Melanesia than with the rest of Australia. The style thus may be as old as the colonisation of Australia around 60 000 years ago.

In the dance, both men and women could show off their athletic prowess and grace, and their superb gifts of mimicry. Many of their dances were carefully observed renditions of the behaviour of animals such as kangaroos and emus. Dances devised after European contact reflected the strange new invader; they told stories of horses, dogs, guns and bullock carts. It was clearly an adaptable and thriving art.

Religious life appears to have been part of the same tradition as that of mainland Australia. Tasmanian Aborigines professed a belief in the Dreamtime, and the ancestor spirits who created life and the physical world in that time.

Some of the religious song cycles appear to form part of the network of such cycles which spread across south-eastern Australia. They observed taboos on the eating of certain animals, and followed strict procedures to appease the spirit world while carrying out daily activities such as gathering certain foods or making items like spears. As a result, Tasmanian Aborigines were able to move confidently within their physical and spiritual world.

(Article contributed by Julia Clark, Tasmanian Museum and Art Gallery.)

8.1 SPORT

Sport is a feature of the Australian way of life and this is reflected in Tasmania where Tasmanians take pride in their own personal achievements in sport but also take a special pride in the achievement of Tasmanian athletes at national and international level.

Sport in Tasmania plays an important role in the State's economy. An impact study by the Economics Department of the University of Tasmania shows that outdoor sport and recreation expenditures indirectly produce over 17 000 jobs or nine per cent of Tasmania's workforce. The same study suggests the output of the industry is valued at \$355 million. Special sporting events held in Tasmania provide a major boost to the economy.

Sport also has many tangible health and social benefits. Health expenditure can be greatly reduced by preventative measures such as regular exercise with the potential to reduce the risk of two of Australia's most prevalent chronic health problems, heart disease and lower back pain. Increased physical activity has also shown positive effects in reducing absenteeism and increasing productivity at the work place.

Sport plays a major role in Australian society, having the ability to unite families, bring people together and cross class barriers. It is one of the few activities that create a feeling of national pride throughout Australia.

For its population, Tasmania has provided an impressive register of national and world class sporting heroes including Darrel Baldock, David Boon, Danny Clark, Doug and Bill Youd, Bill Emmerton, Helen Gourlay, Peter Lawson, Geoff Ayling, Ian Davies, John Goss, David Connor, Stuart Hamilton, James Giannaros, Denise Millikan, Penny Gray, Michael Grenda, David Foster, Don Calvert, Nick Rogers, Malcolm Campbell, Richard Fromberg and Christine Marshall.

Tasmania played host to a number of national and international sporting events in 1990 and 1991. Major events included the World Rowing Championships at Lake Barrington in October 1990, the Victoria versus Tasmania State-of-Origin football match in June 1990 (in which Tasmania was victorious) the annual Sydney to Hobart and Melbourne to Hobart yachting classics, the Australian Deaf Games in 1991 at the Clarence pool and the 1991 Flag Australian Three Peaks Race.

8.1.1 Sporting Achievements

Tasmanians continue to perform successfully at both the national and international level with a number of notable achievements over recent years.

1990 was Richard Fromberg's year. He improved his world tennis ranking from 125th to 32nd, won the Sportmen's Association of Australia's Tasmanian Lindy Award, was named the Mercury-Caltex Sports Star of the Year and became the first Tasmanian to represent Australia in the Davis Cup against the USA.

David Foster contested five championship events and won them all at the 1991 Royal Sydney Easter Show to bring his world championship title tally to 110. For his services to woodchopping, David received a medal in the general division in the 1991 Queen's Birthday Honours list.

At the Australian Open titles in Melbourne in April 1991, Hobart's Scott Goodman won the 200 metre butterfly event. His win was only the third by a Tasmanian in Australian Open Championship history.

Third place in the Sydney to Melbourne Westfield race went to Tasmania's Andrew Law. He completed the 1028 kilometre course in a personal best time of seven days, nine hours and 32 minutes.

Former footballer and sprinter, Arthur Hodgson, was inducted into the Tasmanian Sporting Hall of Fame. Known as 'The Black Prince' he was one of only three Australian footballers to represent his State in five carnivals.

Australian Harness Horse of the Year, *Thorate*, became the first Tasmanian pacer to earn \$1 million in stakemoney. The locally owned and bred champion won the Inter-Dominion final in Adelaide in February 1990 and the Winfield Tasmanian Pacing Championship in December 1990 in record time.

Events

Seven Tasmanian rowers were selected to represent Australia at the World Rowing Championships at Lake Barrington in October 1990. The seven current and former Tasmanians were the State's largest number of national rowing representatives in the largest Australian team ever assembled. Chosen were Launceston's Glenn Myler and Hobart rowers Simon Burgess and Stephen Hawkins together with former Tasmanians Bruce McWatt, Andrew Pierce, John Keogh and Robin Bakker. Stephen and Simon won bronze medals as members of the men's lightweight quad sculls.

Tasmania had a 33 point State-of-Origin win over Victoria in June 1990. The win, the first by a Tasmanian team against Victoria since 13 June 1960, was watched by 18 651 spectators at the North Hobart Oval.

Jamie Cox was named captain of the 14-man Australian youth cricket team to tour the West Indies in July 1990. David Castle and Stuart Oliver were also selected to play in the three youth tests to be played in Jamaica, Barbados and Guyana. The appointment of Jamie follows his impressive Sheffield Shield performances for Tasmania in the previous season when he hit 693 runs, including a century in each innings against New South Wales. His performance gained him selection in the Prime Minister's XI team against the touring Pakistanis in Canberra where he scored a half-century. Jamie is a former Australian under-19 vice-captain and, at the time of his selection, captain-coach of University in the TCA.

Susan Andrews was named the winner of the TasTV Young Achiever of the Year Award in September 1990. Nineteen-year-old Susan, who competed in the 1990 World Junior

Athletic Championships in Bulgaria, won a gold medal as a member of the 4x400 metre relay and came fourth in the individual 400 metre event.

The 1990 William Leitch Medal was won by New Norfolk captain, Ricky Hanlon, who polled 25 votes. It was the equal highest number of votes to win the medal since 1964.

The inaugural Tasmanian soccer writer's Player-of-the-year Award was won in 1990 by Scott Young, midfielder of Cadbury State League soccer champion *White Eagle*.

Tasmanian racehorse, *Sydeston*, took earnings to \$2 million when he won the 1990 Caulfield Cup. *Sydeston* was the first Tasmanian horse to win the Caulfield Cup since *Beer Street* in 1970.

Basketballer Kathy Foster and weightlifter Alison Rogers received awards as the State's leading achievers in women's sport. Kathy was named Tasmanian Sportswoman of the Year for 1990 and Alison received the 1990 Junior Sportswoman Service to Sport Award.

A 15-year-old record in the Melbourne-Devonport yachting classic was broken in 1990 by *Fuji Logitech* sailed by Ron Spence of the Royal Geelong Yacht Club.

Sagacious V was the handicap winner of the 1990 Nortel Sydney-Hobart Yacht Race, *Ragamuffin* took out line honours.

Obituary

Tasmanian bowls champion, Peter Lawson, died in January 1991, aged 53. As well as earning national recognition in bowls Peter had been a keen golfer, played more than 100 football games with Devonport and Launceston and represented the former North-Western Football Union and Northern Tasmanian Football Association. He was one of only two bowlers to have won the State master's singles bowls title twice, once in 1987 and again in 1989. Peter was named as Devonport's inaugural Sportsman of the Year in 1982 and represented Australia in the first-ever Australia versus England bowls Test, played at Tweed Heads in 1983. He is the only Tasmanian to have won the Australian Champion of Champions single title, a title he won in 1986.

Local mare *Bitter Spring* won the 1991 Launceston Cup and brought her winnings to \$250 000 without leaving the State.

Two 15-year-olds, Alison Wigston and Andrew Painter, rewrote the record books by winning the major titles at the 1991 Tasmanian Open tennis championships.

Joe Holyman, in his debut match as Tasmanian wicketkeeper, captured a world record with seven catches. The record came during Western Australia's first innings in the Sheffield Shield match at the Bellerive Oval in March 1991.

The Hellyer College golf team of Paul Marshall, Aaron Papas and Emma Heazlewood won the 1991 Niblick Australian School Teams Championship at the Victoria Golf Club in Melbourne.

The 1991 Sheraton-TCC Sheffield Shield Player of the Year Award was won by Peter McPhee. He took a record 43 wickets for the season, breaking the previous best of 42. He also broke the record for the most shield wickets for Tasmania in a season.

The 1991 TCA player of the year was Scott Smith who polled 23 votes.

David Foster won the 375mm single-handed sawing championship in a record-smashing victory at the Royal Easter Show. In a field of the best from Australia, New Zealand and the USA, Foster sliced .28 seconds off the record. He also brought his world championship title tally to 110 when he won the 300mm Standing Cut Hardhitting championship. In another record-breaking performance he had a clear victory in the 325mm Logs Underhand championship by breaking his own record by 1.27 seconds. David received a medal in the general division of the Queen's Birthday Honours list for services to woodchopping.

The Beauty Point yacht *Hazadatas*, with crew Bruce Guy, David Wright, skipper Nick Edmunds, runners Garth Foley and Wayne Byron, won the Flag Australian Three Peaks Race.

Richard Fromberg completed a clean sweep of major 1990 sports awards when he won the Sportsmen's Association of Australia's Tasmanian Lindy Award.

Ashley Riley of Devonport was selected in the four-member Australian under-21 tenpin

bowling team to play in the world championships in Guam. At the championships he won three gold medals. Riley won the prestigious singles title to take his first gold, then went on to win gold in the doubles event with countryman Damien Norman, and in the all-events division he won his third.

Tasmania's top jockey Garry Glover won a lucrative contract to ride overseas for six months.

Scott Goodman swam his way into the Australian team for the Pan Pacific Swimming Championships with a stunning victory at the Australian Open titles.

The new \$1.1 million City of Devonport Raceway and grandstand complex was opened. The complex provides first class facilities for pacing, greyhound racing and Devonport Exhibition patrons.

Clare Hawthorne was named in the Australian Orienteering Team to contest the Australia-New Zealand Challenge and the senior championships in Czechoslovakia and the junior world championships in Berlin, Germany.

Andrew Law came third in the Sydney to Melbourne Westfield race.

The new \$1 million Devonport Racing Club's Spreyton Park amenities complex was opened. The building has a bar, full tote facilities, a restaurant and a first-class viewing area.

Jamie Cox and Rod Tucker were named in a 13-man Australian cricket team to tour Zimbabwe in September.

Champion high jumper Andrea Hughes was named the winner of Tasmania's inaugural MLC Junior Sports Achiever of the Year award. At a meeting in Tallahassee, Florida, she broke her personal best and recorded the best jump by a Tasmanian.

Leanne Wright became the first Tasmanian to represent Australia at the under-18 Appaloosa World Championships in Canada.

Launceston's Cataract Gorge was chosen as the venue for one of five rounds of the World Canoe Slalom Cup. The Cup is the first to be held outside Europe and America in its 10-year history.

Pieta Langham was selected in the Australian

under-21 women's hockey team.

Sarah Fitzgerald and Monique Brumby were selected to represent Australia in a three-test soccer series against a New Zealand under-19 youth team. Naomi Denne was selected in the Australian under-16 junior squad.

In the Special Olympics in Minneapolis, USA, Brian Kirkwood won a gold medal in the 200 metres, a bronze medal in the 100 metres and a silver medal in the relay.

A 45-hour BLF darts marathon, at Hobart's Brisbane Hotel, broke Australian and world records to put Tasmania in the Guinness Book of Records.

Danny Clark won his fourth world title by winning a gold medal in the gruelling professional motor-paced event at the World Cycling Championships in Stuttgart.

The Tasmanian-based men's lightweight quad sculls won gold in the 1991 World Rowing Championships in Vienna.

Bitter Spring was named 1990-91 Tasmanian Racehorse of the Year.

The Hobart Quit Islanders won the Women's National Basketball League grand final with a three point win over the Melbourne East Spectres.

Clarence player, Gary Williamson, won the 1991 Holden William Leitch Medal for the best and fairest player in the Statewide Football League.

North Hobart defeated North Launceston in the 1991 Statewide Football League grand final.

Simon Hollingsworth set a new State residential 400m hurdles record. Recording a time of 50.7 seconds he shaved 1.8 seconds from the previous record set 37 years ago by David Lean.

Westburn Grant won the \$125,000 Australian Pacing Championship at Mowbray in November. It was the first time the pacing titles had been held outside a mainland capital city.

Orienteer Christine Marshall was named Tasmanian Sportswoman of the Year. Lacrosse player Jacqui Lawless was named Junior Sportswoman and the Islanders Basketball team received a special award to honour their NWBL title-winning performance.

Basketballer Nita Burke and Olympic diver Julie Kent were inducted into Tasmania's Hall of Fame.

Brindabella, the 19.6 metre Farr-designed pocket maxi skippered by George Snow, took line honours in the 1991 Sydney - Hobart Yacht Race. *Atara*, skippered by World Champion Irish sailor Harold Cudmore, won on corrected time.



1991 Sydney-Hobart line honours winner, *Brindabella*.
Photo: Royal Yacht Club of Tasmania

The AIS Slalom Canoe Satellite

The Australian Institute of Sport has established a satellite venue for canoe slalom training at New Norfolk. By its establishment in Tasmania, the AIS recognises the suitability of Tasmanian river environments for this sport. Assistance with training is provided from State and Federal Governments.

The Tasmanian canoeists have been very successful in this program and have been placed highly in international competition.

WORLD ROWING CHAMPIONSHIPS

History was made by more than 1000 of the world's best rowers, representing a record total of 46 nations, when they contested the World Rowing Championships at Lake Barrington from 27 October to 4 November 1990. The event was historic because Australia was staging the championships for the first time. It was also the first time Tasmania had hosted a world championship in an Olympic sport.

The championships marked the last time that East Germany and West Germany competed separately in a sporting event prior to reunification.

Launceston's Glenn Myler and Hobart rowers Simon Burgess, Stephen Hawkins and Sandra Harvey were joined by former Tasmanians Bruce McWatt, Andrew Pierce, John Keogh and Robin Bakker to give the State its largest ever number of national rowing representatives in the Australian team. Tasmania also had a record two coaches in Tim McLaren and John Driessen.

The advancement in technology was evident as the largest consignment of racing shells ever to enter Australia arrived from Switzerland to provide crews with state of the art equipment. Valued at \$1 750 000, the shells were built by a number of European countries.

Lake Barrington International Rowing Course is situated on a 21 kilometre stretch of the Forth River. The course itself is 2000 metres long and divided into buoyed lanes, each between 12.5 and 15 metres wide. It is set about seven kilometres from the southern end of the Lake and is sheltered from the weather by its surrounding hillsides. As well as being outstanding in its natural beauty, it is regarded as one of the fairest courses in the world. Excellent facilities are available for competitors, officials, spectators and the media. The course won universal acclaim from competing countries and Tasmania is well placed to host future world rowing championships if they come to the Southern Hemisphere.

The World Rowing Championships opened on Saturday 27 October 1990 with delegates from the various rowing nations convening for a congress in Launceston. Sunday 28 October was the official opening day with heats, semi-finals and finals occurring during the remainder of the week.

A crowd of 10 000 attended the opening ceremony with the largest row past of any world rowing event being staged as part of the

championships. Anita Derks and Fleur Spriggs carried the green and gold tipped oars for Australia. The ceremony was the culmination of years of planning and hard work. A cooee-call went out to the High Country Trail Riders who carried a scroll down Lake Barrington's steep hillsides to Mr Michael Field, the Tasmanian Premier. The organising committee had turned Lake Barrington into one of the best rowing championship courses in the world. Tasmanian tourism received a great boost as 120 representatives of the world media were there to record the outcome and television coverage was beamed to all parts of the globe. The crowd cheered and clapped as countries including the USA, West Germany, East Germany, China and the USSR participated in symbolic gestures of unity. For the next seven days they competed fiercely on the water.

An international panel of 15 umpires officiated, with five being from Australia. Their responsibility was for boat-weighing, shell skin-testing, safety, race start alignment, fair racing and crew photographs.

The finals took place on Sunday, November 4 and were rowed before a capacity crowd. Australia's best chance of a gold medal was thought to be the Coxless Four. In their heat the Australian crew, known as the 'Awesome Foursome' clipped 16 seconds off the course record and set themselves as hot favourites for the gold medal. The crew of Nick Green, Mike McKay, Sam Patten and James Tomkins led most of the way before a roaring home crowd to win Australia's only gold medal.

Australia collected its biggest medal swag in international rowing as they also won one silver and two bronze. Tasmanians Stephen Hawkins and Simon Burgess along with Gary Lynagh and Bruce Hick collected a bronze medal in the men's lightweight quad sculls. Amanda Cross, Pam Westendorf, Sally Ninham and Rebecca Joyce won silver in the women's lightweight coxless four. Double scullers Peter Antonie and Paul Reedy won bronze.

WORLD ROWING CHAMPIONSHIPS 1990

FINAL MEDAL COUNT

	<i>Gold</i>	<i>Silver</i>	<i>Bronze</i>
G-EAST	5	1	5
G-WEST	3	3	1
ITA	3	-	1
URS	2	3	1
DEN	2	1	-
ROM	2	1	-
USA	1	3	1
CAN	1	2	1
HOL	1	2	1
AUS	1	1	2
BEL	-	1	1
AUT	1	-	-
FRA	-	2	1
TCH	-	1	1
ESP	-	1	-
SUI	-	1	-
YUG	-	-	-
GBR	-	-	2
NZ	-	-	1
NOR	-	-	1
CHN	-	-	1

(Source: Tourism Tasmania.)



World Rowing Championships, Lake Barrington, 1990.

Photo: Tasphoto Services

8.1.2 Participation in Sport

The Tasmanian Department of Sport and Recreation lists almost 100 different categories of sport for which they have registered participants. Although a person could be registered in more than one sport, total registered participants for the 1989 year totalled 144 618 compared with 156 000 in 1988.

8.1 REGISTERED PARTICIPANTS IN MAJOR SPORTS

Sport	Number	
	1989	1990
Athletics	3 761	3 517
Basketball	7 987	7 946
Bowling - Indoor	2 421	2 384
Bowling - Tenpin	3 515	3 426
Cricket - Indoor	15 000	15 000
Golf - women	4 190	4 290
Golf - men	11 981	12 786
Lawn bowls - men	4 906	4 906
Lawn bowls - women	3 127	3 059
Lawn tennis	n.a.	6 220
Netball - women	6 000	6 380
Softball	2 087	2 277
Squash	2 850	2 850
Volleyball	2 112	5 180
Yachting	4 627	4 597

(Source: Department of Tourism, Sport and Recreation).

8.1.3 Government Support

The Tasmanian Government through the Department of Tourism, Sport and Recreation funds sporting and recreational bodies through the Recreational Development Fund, the Sports Development Program, the School Holiday Program and the Minor Capital Works Program.

Funding is allocated according to criteria established for each program. In total, Government support in these areas for 1990-91 was nearly \$900 000.

Further financial assistance is available to individual athletes and teams through the TIS Scholarship Program. \$150 000 was allocated in 1990-91 to scholarship holders.

The Department of Tourism, Sport and Recreation also gives support through its Special Events Unit. International and national sporting

events, which included the National Relays, the BP Rally, the World Rowing Championships and the Great Bicycle Ride, received financial support.

Sports Development Program

Sport and Recreation Tasmania has provided state sporting organisations some \$411 000 in the last financial year. Each sport submits to Sport and Recreation Tasmania an annually updated three year development plan outlining its funding priorities in line with developmental targets set in conjunction with that sport, and Sport and Recreation Tasmania.

Areas that have had priority funding are coaching, education developmental programs, referee and officials' education, hosting national events and junior development.

Coaching Development Program

Coaching development and education has been a high priority with Sport and Recreation Tasmania for a number of years. Programs have now been established for all levels of coaching and these will be consolidated in the future.

Coaching programs include a High Performance Coaching Program which targets coaches of high performance athletes; a coaching scholarship program which enables coaches of development squads and talented athletes to gain further knowledge and skills; Level O and I programs which aim to raise the standard of coaching at the base level of sport; and a Coach-in-Residence scheme which brings international standard coaches to Tasmania over a short time for coaches of all standards to have exposure to contemporary methodologies and philosophies.

Women in Sport and Recreation

The Women in Sport and Recreation Policy was launched during the Women in Sport and Recreation Week. The Policy provides a framework to guide actions of Sport and Recreation Tasmania and state sporting organisations for future involvement of women and girls in sport. Highlights of the Policy include direction on participation, administration and leadership, use of the media, developing sponsorship and awareness programs for lifestyle and fitness.

The impact of the Women in Sport and Recreation Week in March is still being echoed as a resounding success by the Tasmanian community. Highlights of the week were the Sports Development Seminar with guest speaker Sena-

tor Rosemary Crowley, the "Come and Try" activities and the Expressions Breakfast Series for sportswomen.

Tasmanian Junior Sports Commission (TJSC)

The TJSC has been established to develop a Junior Sports Policy for Tasmania. The Commission will provide an excellent forum for existing ideas and developing policies for the future directions of junior sport. It will provide a single voice to speak on behalf of both school sport and community sport, and will be an advisory body to Government and issues affecting junior sport.

Objectives are:

- To develop attitudes which will help children along a lifetime path of fitness and health.
- To identify and validate opportunities that will assist the development of junior sport within this State.
- To formulate strategies which will enhance the development of junior sport, with emphasis placed on participation, skill development and fun.
- To address the responsibilities and resource priorities of communities and schools in providing the best possible plan for junior sport.
- To support and promote the programs of the AUSSIE SPORT Unit.
- To develop a Government policy which clearly outlines its goals and directions in the area of junior sport.
- To educate and advise coaches, umpires and others on their responsibility to provide competent guidance while creating a healthy environment for all children to enjoy playing sport.

Sports Administration

Sport and Recreation Tasmania has been conducting administration courses over a number of years and it has developed a series of handbooks for club administrators. From 1991, the Australian Society of Sport Administrators has developed a national accreditation scheme for all sports administrators and it is pleasing to note that Sport and Recreation Tasmania will be the agency for delivery of these courses.

AUSSIE SPORT

The very successful AUSSIE SPORT program has continued to make an impact in Tasmanian schools. The Sportsfun Leader Program has been an outstanding success and has continued to expand into more Tasmanian communities. A pilot program for rural schools is being launched and this will reach a further 6000 school children.

The philosophy of the AUSSIE SPORT program is sport for all with emphasis on sportsmanship, skill development, fun and participation.

8.1.4 Tasmanian Institute of Sport

Background

The Institute was established in 1985 to ensure that our future champions have the support they need to pursue their sporting careers at an international level within Tasmania. Since that time scholarships have been awarded annually to the State's most talented individual athletes and squads.

The program is currently being financially supported by both the Tasmanian Government and, to a lesser extent, the corporate sector.

Scholarships

Athletes may be eligible to receive either full or associate Institute scholarships.

Full scholarships offer athletes funding to assist with the cost of training expenses, equipment purchase, travel to competitions and sports medicine needs. They also provide sports science support, access to nutritional and weight training consultants and the Institute's resource centre.

Associate scholarships are awarded to talented junior athletes as a means of recognition and encouragement. These scholarships provide sports science testing and access to nutritional and weight training consultants and the Institute's resource centre.

Performances

In its short life the Institute has already achieved significant success by creating a structure to enable Tasmania's fine, young athletes to fully develop their potential. The performances and results of these athletes speak for themselves.

- Five athletes competed in the World Junior Track and Field Championships in August 1990. Susan Andrews was a gold medallist in the 4 x 400 metres relay. Joanna Campbell-Smith, Simon Hollingsworth, Andrea Hughes and Kealin Hanigan also competed.
- At the World Rowing Championships held at Lake Barrington in 1990, TIS rowers Simon Burgess and Stephen Hawkins were bronze medallists. Sandra Harvey and Glenn Myler were also World team members.
- In slalom canoeing Justin Boocock competed in the World Junior Championships and will join other TIS members Robert McGuinness and Peter Eckhardt to compete at the World Senior Championships later in 1991.
- Matthew Gilmore, TIS cyclist now training with the AIS, won a silver medal at the World Junior Championships earlier in 1991
- Other TIS international representatives are:

Track and Field:

Gail Luke
Jo Cubit
Rohan Best
Russell Foley

Judo:

Angela Deacon
Chris Bacon
Dean Lampkin
Brian Thomas
Chris Palmer
Simon Stones

Orienteering:

Louise Fairfax
Christine Marshall
Cathy Liggins
Clare Hawthorne

Sailing:

Michael Cooper
Robert Gough

Weightlifting:

Ron Laycock

Boxing:

Justann Crawford

8.2 TASMANIAN INSTITUTE OF SPORT SCHOLARSHIPS FOR 1990-91

Susan Andrews	Athletics
Brent Annells	Waterpolo
Todd Apted	Athletics
Chris Bacon	Judo
Guy Belbin	Boxing
Rohan Best	Athletics
Justin Boocock	Canoe Slalom
Rachel Brown	Swimming
Leigh Bryan	Cycling
Richard Buchanan	Sailing
Simon Burgess	Rowing
Joanna Campbell-Smith	Athletics
Michael Cooper	Sailing
Justann Crawford	Boxing
Angela Deacon	Judo
Peter Eckhardt	Canoe Slalom
Louise Fairfax	Orienteering
Russell Foley	Athletics
Scott Goodman	Swimming
Robert Gough	Sailing
Kealin Hanigan	Athletics
Sandra Harvey	Rowing
Stephen Hawkins	Rowing
Clare Hawthorne	Orienteering
Simon Hollingsworth	Athletics
Andrea Hughes	Athletics
Steven Kingston	Athletics
Dean Lampkin	Judo
Ron Laycock	Weightlifting
Jarrod Leslie	Weightlifting
Catherine Liggins	Orienteering
Gail Luke	Athletics
Iain McGregor	Swimming
Robert McGuinness	Canoe Slalom
Andrew McLean	Equestrian
Christine Marshall	Orienteering
Jocelyn Millar-Cubit	Athletics
Camille Munting	Water Skiing
Nicole Munting	Water Skiing
Glenn Myler	Rowing
Julian Norton-Smith	Canoeing
Andrew Painter	Tennis
Chris Palmer	Judo
Craig Percival	Water Polo
Jason Reed	Weightlifting
Gelinda Riley	Athletics
Greg Robertson	Athletics
Simon Stones	Judo
Brian Thomas	Judo
Ross Watkins	Disabled Swimming
Teams	
Basketball (Islanders)	
Hockey - men's	
Hockey - women's	
Netball	
Volleyball - men's	
Volleyball - women's	

(Source: Tasmanian Institute of Sport).

8.2 RECREATION

Tasmanians are becoming more aware of the physical, social and psychological benefits that can be gained through participation in satisfying leisure activity.

Figures produced from a University of Tasmania study into the spending characteristics of Tasmanians on outdoor sport and recreation reveal that an estimated \$276 million was spent on leisure activity in 1988. These results show that leisure is a significant element in the lives of Tasmanians.

The Tasmanian Government through Sport and Recreation Tasmania develops projects aimed at encouraging all Tasmanians to participate in satisfying and challenging sport and recreation activity.

In 1990-91 almost \$390 000 in grants were provided to state and local organisations to upgrade facilities and to develop recreation projects.

8.3 MAJOR RECREATIONAL DEVELOPMENT GRANTS, 1990-91

<i>Grant</i>	<i>Amount (\$)</i>
Fitness Accreditation Council	7 500
Austswim	15 000
Royal Life Saving Society	14 124
RSVP Tasmania	17 000
Surf Life Saving Association	19 750
Bush and Mountaineering Board	18 000
Vacation Recreation Activities	20 650
Life Be In It	12 000

(Source: Department of Tourism, Sport and Recreation).

Since hosting the first Australian Masters Games in 1987, over 5000 Tasmanians of all ages have participated in masters and regional games conducted throughout the State. These events have been organised to promote the social and physical benefits of participation in activity regardless of age or sex. The next Tasmanian Masters Games will be held on Tasmania's north-west coast in 1993.

The diversity of Tasmania's outdoor areas encourage many people to explore our mountains, forests, inland waters and coastal regions. Sport

and Recreation Tasmania plays a major role in promoting safety and developing outdoor skills in this State, and now through Project Hahn is also using this adventure environment for the personal development of individuals.

To take advantage of Tasmania's exceptional outdoor resources, a National Outdoor Leadership Centre is currently being developed at Lake Barrington, site of the 1990 World Rowing Championships.

8.3 CULTURE

Tasmania boasts a talented and energetic arts community. The Tasmanian Arts Advisory Board sets programs which address the unique needs of Tasmania as an island State.

8.3.1 The Arts

The Tasmanian Arts Advisory Board was established in 1975 to advise the Minister on all matters relating to the formulation, development and implementation of policies for the promotion of the arts. During 1990 the staffing arrangements of the Board were reassessed as part of the review of the Department of Education and the Arts. One of the recommendations was the establishment of the Office of the Arts which, in addition to supporting the programs of the Tasmanian Arts Advisory Board, will provide administrative and policy development support to the Department of Education and the Arts.

Each year, through Arts Tasmania, the Government invites applications from individuals and organisations for financial assistance in the form of grants, loans and subsidies. The Tasmanian Arts Advisory Board, using a peer group assessment system, evaluates all applications, and Arts Tasmania makes final recommendations to the Minister.

Tasmania leads Australia in several important areas as a result of its programs. These areas are the Art in Public Buildings Scheme (APBS), arts-based industry development, community arts and dance in education. Under the APBS, one per cent of the capital cost of the construction or refurbishing of every State Government building is allocated to the provision of contemporary artworks up to a maximum of \$20 000.

In Tasmania there have been a number of new initiatives in the visual arts, crafts and design and theatre. These include improved accommodation of audiences and artists.

The ideally located Salamanca Arts Centre complex, which is owned by the Government and managed by the Community and Arts Centre Foundation, provides a home for many subsidised arts organisations, as well as gallery, theatre, studio and retail spaces. These historic buildings are currently undergoing renovation which, while retaining the buildings' special character, will ensure the availability of more useful and comfortable facilities.

In 1991 the Office of the Arts initiated the establishment of the Tasmanian Design Development Company which will coordinate the promotion and marketing of high quality Tasmanian design and craft products. The TDCC will assist practitioners throughout Tasmania to create products. It will also foster links between Tasmanian designer makers and interstate and overseas interior designers and architects in both design production and limited manufacture.

For this major new arts development, the Office of the Arts has secured a derelict three-storey warehouse in a courtyard off Hunter Street, Hobart, and its refurbishing has commenced.

The TDCC is planning to be self-sufficient within three years through commissions and re-couped rentals for the workshop and exhibition space. Its first project is the establishment of the TasWare line of products — an import-replacement program for Tasmanian kitchenware products, in conjunction with Habitat of Hobart.

Development of a stronger regional support base has been an important aspect of Visual Arts and Crafts funding. The location of ArtHouse Inc. in new premises at Ritchie's Mill in Launceston, and the exhibition program of the University of Tasmania's Launceston campus reflect a new dynamic focus.

The Office of the Arts has provided significant support for the annual programs of a number of organisations to deliver arts activity on a statewide basis in each artform. These statewide organisations, jointly funded with the Commonwealth Government, include Island Magazine, Tasdance, Zootango Theatre Company, Terrapin Puppet Theatre, Tasmanian Arts Council and the National Exhibitions Touring Scheme.

8.4 MAJOR ARTS GRANTS, 1991

<i>Grant</i>	<i>Amount (\$)</i>
Arts Based Industries (special projects) -	
Tasmanian Design Development Unit	25 000
Community Arts (annual programs) -	
Community Arts Network	27 000
Kaleidoscope Community Arts Company	27 000
North-west Community Arts Assoc.	24 000
Cacti	19 200
Literature (annual programs) -	
Island Magazine	20 000
Multi Arts (annual programs) -	
Tasmanian Arts Council	55 000
Australian Film Institute (State)	10 000
Music (annual programs) -	
Top Left Music	30 000
Theatre (annual programs) -	
Tasdance	214 000
Salamanca Theatre Company	90 000
Terrapin Puppet Theatre	70 000
Zootango Theatre Company	60 000
Theatre Royal Management Board	40 000
Visual Arts and Crafts (annual programs) -	
Chameleon	22 500
University of Tasmania	18 270

(Source: 1991 State Arts Grants and Loans, Tasmanian Arts Advisory Board).

Arts Tasmania supports the right of Aboriginal people to determine their own cultural development, and seeks to assist the further development of Aboriginal Arts in consultation with Aboriginal communities.

On the international level, in October 1990 a compact survey exhibition of handmade crafts by artists and designers living in Tasmania travelled to Japan. Titled *Axis*, it focused on the combination of respect for the traditional values of the various crafts with innovation and the utilisation of modern technologies and materials in the manufacture of the work. The Tasmanian Development Authority presented the exhibition and sponsorship came from the Axis Gallery in Tokyo, the Japan Industrial Design Promotion Organisation and Qantas. Subsidies were given by the Tasmanian Office of the Arts, the Australia Council and Department of Foreign Affairs and Trade.

In 1990 the Tasmanian Symphony Orchestra toured South Korea and Indonesia from 21 July to 2 August. The Orchestra gave seven performances, all in different venues. It was the first time the Tasmanian Symphony Orchestra had been overseas in 11 years, and the first time that the TSO toured in its own right.

RETURN OF A GREAT GLOVER TO TASMANIA

In May 1990, the Tasmanian Museum and Art Gallery purchased John Glover's outstanding work *The River Derwent and Hobart Town* for \$330 000, the most it had ever paid for a painting.

John Glover is one of Australia's most famous early colonial painters and the Tasmanian Museum and Art Gallery is widely known for its exceptional Glover collection. The artist arrived here from England in 1831 and after a relatively brief stay in Hobart settled for the rest of his life at his newly acquired property along the Nile River at the foot of Ben Lomond. He was fascinated by his new home. His picturesque glimpse of *The River Derwent and Hobart Town* 'painted on the spot' c1831 is one of 38 landscapes 'descriptive of the scenery and customs of the inhabitants of Van Diemen's Land' he sent back for exhibition in London in 1835. The picture stayed in England, its whereabouts until recently unknown. It is one of only two of Hobart. The other, *Hobart Town taken from the garden where I lived*, is held by the State Library of New South Wales.

The River Derwent and Hobart Town was unveiled in October 1990 by His Excellency General Sir Phillip Bennett, AC, KBE, DSO, Governor of Tasmania. It was dedicated to the memory of the late Sir James Plimsoll. The Art Foundation of Tasmania launched The Great Tasmanian Glover Appeal to raise its purchase price.



(Article and photograph contributed by Christa Johannes, Tasmanian Museum and Art Gallery.)

Tasmanian writing maintains a national profile. Island Magazine has established itself as one of the influential small literary magazines in Australia, and provides an important forum in which Tasmanian writers can be published alongside significant interstate writers. The Writers Cottage, which is part of the Salamanca Arts Centre, attracts an exciting range of writers to the State to pursue their own work in fascinating historic surroundings. It also provides an ideal base for residencies and other writing projects involving young people and theatre and community groups in a mix of scriptwriting, poetry and prose.

Tasmania hosts a number of major annual arts and crafts festivals. These include the October Tasmanian Poetry Festival in Launceston (Tasmanian Fellowship of Australian Writers)

and the November Salamanca Writers Weekend in Hobart (the Tasmanian Writers Union).

The 1990 Mersey Valley Music Festival broke new ground by being linked to the World Rowing Championships (27 October to 4 November).

8.3.2 Religion

Religious affiliation by Tasmanians appears to have decreased in recent years. The 1986 Census shows that just under 75 per cent of the population were adherents to various religious groups compared with almost 81 per cent in 1976. This trend is also evident in Australia as a whole. In 1976, 80 per cent of the Australian population were affiliated with various religions whilst in 1986 this had fallen to 75 per cent.

8.5 RELIGIOUS ADHERENTS, TASMANIA

Year	Christian religion	Other religion	Total population
1976	324 241	779	402 856
1981	317 415	1 267	418 962
1986	324 792	1 967	436 353

(Source: 1976, 1981 and 1986 Population Censuses).

The Anglican Church remains the largest of the Christian denominations in Tasmania, accounting for almost 36 per cent of the population. The three other significant denominations, the Catholic Church (18 per cent), the Uniting Church (8 per cent) and the Presbyterian Church (3 per cent) account for a further 29 per cent of the population.

8.6 RELIGIOUS AFFILIATION, TASMANIA, 1981 AND 1986

Religion	1981	% of popn	1986	% of popn
Anglican	151 207	36.1	154 748	35.5
Baptist	7 965	1.9	8 092	1.9
Brethren	3 947	0.9	3 856	0.9
Catholic	78 143	18.7	80 479	18.4
Congregational	1 790	0.4	1 241	0.3
Churches of Christ	2 110	0.5	2 046	0.5
Jehovahs Witness	1 510	0.4	2 062	0.5
Latterday Saints	1 281	0.3	1 414	0.3
Lutheran	1 631	0.4	1 753	0.4
Methodist	19 906	4.8	-	-
Orthodox	1 855	0.4	1 960	0.4
Pentecostal	1 357	0.3	1 953	0.4
Presbyterian	11 575	2.8	12 084	2.8
Salvation Army	3 202	0.8	3 437	0.8
Seventh Day Adventist	1 464	0.3	1 413	0.3
Uniting Church	17 668	4.2	36 724	8.4
Other Protestant	5 217	1.2	3 034	0.7
Other Christian	5 587	1.3	8 496	1.9
Total Christian	317 415	75.7	324 792	74.4
Non-Christian -				
Buddhist	238	0.1	438	0.1
Hindu	n.a.	0.0	305	0.1
Jewish	145	0.0	160	0.0
Muslim	370	0.1	569	0.1
Other Non-Christian	514	0.1	495	0.1
Total Non-Christian	1 267	0.3	1 967	0.5

(Source: 1981 and 1986 Population Censuses).

The overall number of Christian believing people indicating a religious affiliation has fallen in proportion to total population. There has, however, been a large increase in the number of Uniting Church affiliations, which doubled from 1981 (4.2 per cent) to 1986 (8.4 per cent).

Muslims make up the largest group of non-Christian believers. It is significant that there has been a marginal increase in the overall proportion of non-Christian believers from 1981

8.7 PERSONS WITH NO RELIGION, TASMANIA

Year	Persons	% of population
1976	27 624	6.9
1981	36 222	8.6
1986	47 852	11.0

(Source: 1976, 1981 and 1986 Population Censuses).

(0.3 per cent) to 1986 (0.5 per cent). This increase is partly due to the increase in Asian immigrants into Tasmania.

There has been a large increase in the number of Tasmanians who are now not affiliated with any religion. In 1976, 6.9 per cent of the population professed no religious affiliation compared with 11 per cent by 1986. This pattern follows Australia as a whole but Tasmania remains slightly lower than the Australian average.

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Chapter 9

EDUCATION

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Chapter 9

EDUCATION

On 20 June 1990 the Minister for Education and The Arts, The Hon. Peter Patmore, MHA, announced a comprehensive review of Tasmania's education system. The Melbourne-based consultancy firm, Cresap, was engaged to conduct the review. Under the terms of reference the consultants were required to identify areas in the operation of the Department of Education and The Arts and the school system where greater efficiencies and cost-effectiveness could be achieved while maintaining the quality of education.

The review's final report was presented to the State Government on 14 September 1990. It identified a number of services to be abolished entirely; some to be devolved to schools; some to be considerably reduced and others to be enhanced.

The report's recommendations led to:

- a major reorganisation of the Department's structure;
- a reduction of 552 (about 10 per cent) in the number of teaching positions and of 522 (about 30 per cent) in non-teaching positions;
- the organisation of schools and colleges into eight districts, replacing the three-region structure;
- the adoption of a self-managed school concept; and
- a streamlining of the curriculum branch.

Specific areas of change were managed by 19 multi-representational task forces.

The processing of employee redundancy applications was a major task which continued into the early months of 1991. By April 1991



Photo: The Mercury

close to 1000 redundancy packages had been processed.

The benefits and savings to be achieved under the new structure were considerable and included the following:

- one layer of administration (that of the Regional Director's) was eliminated, with a shift of responsibility from the central administration to schools;
- the implementation of school-based management will allow increased participation

of the community in decision-making at the school level;

- there is an emphasis on integration of educational effort from Kindergarten to Year 12, giving closer coordination between educational levels;
- three very large regional offices have been closed in favour of eight very small district offices; and
- the benefits have been achieved within a substantial streamlining of the Department's out-of-school administration and support service structure.

9.1 EDUCATION TODAY

In recent years the pressures have changed with a growth in the unemployment of school leavers and of the unskilled. In addition, the Federal Government has accepted a greater financial responsibility and provides funds through the Department of Education, Employment and Training.

In 1989 the Department of Education and the Arts became responsible for Tasmania's library services and similar activities.

Government institutions provide education in Tasmania at all levels; but non-government bodies, even with government assistance, find secondary schools expensive to commence and so far have not ventured into any tertiary area apart from a single missionary training college at St Leonards.

In rural areas primary education is generally provided by small government primary schools and district high schools.

In primary schools, classes are usually co-educational and unstreamed with teachers devising programs for children of various abilities. Pupils progress to the next grade on the basis of their maturity and age rather than on their intellectual attainments.

The primary school curriculum is designed to cater for the mental, physical, social and emotional development of children during their critical formative years. The curriculum emphasises the acquisition of literacy, numeracy and basic language skills within the wider context of developing a capacity to communicate,



Mature-age students.

Photo: Tasphoto Services

think and value. The school's task is to provide programs that enable each pupil to develop skills appropriate to his or her stage of development and that will foster further learning. These programs also provide for creativity and arousing the imagination as well as giving the opportunity to develop initiative and logical thought.

In government schools strict neutrality is observed on religious dogmas and ethics. Legislation gives limited access by outside religious groups to their adherents. Full advantage is seldom taken of this access.

For 15 years, by invitation of some high schools, a small Christian Option Program staffed by volunteers has been run by the Scripture Union. The program assumes no background and offers one alternative of many. It has spread to other States. Other groups can similarly be invited to propose alternative lifestyles.

Department of Education and the Arts policy is directed towards integrating children with special needs into normal schools. Special schools provide for children with different forms of handicap and who are unable to benefit from instruction in normal schools. Instruction varies according to the type of handicap. In cases of physical handicap the main need is to maintain normal or near normal individual programs. Schools and classes for intellectually handicapped children follow a program that is tailored to meet individual needs.

Current Department of Education and the Arts policy is directed towards educating children in their local communities. However, parents are free to choose which government school their child attends. There has been positive discrimination towards country children and steps have been taken to make the secondary education available in district high schools comparable to that provided in urban areas. These steps in-

clude staffing district high schools more generously than high schools and establishing annexes (selected 11th and 12th grade subject classes) of senior secondary colleges in four country towns. The district high schools, with their lower than optimum and declining numbers, pose a problem to a cost-conscious government committed to serving Tasmania's dispersed population. Each type of school draws pupils from outlying localities. Transport is free but the foreshadowed consolidation of high schools in the nineties will involve some longer travelling times for students.

The secondary curriculum provides a general, comprehensive education within a framework of subjects endorsed by the Schools Board of Tasmania. Most Years 7 and 8 pupils follow a common course developed by the school and suited to their needs.

In Years 9 and 10 students follow courses derived from Tasmanian Certificate of Education Syllabuses. Schools generally require all students to follow a core of basic subjects. In addition, students select optional subjects at appropriate levels of difficulty to meet individual needs and interests.

Candidates normally sit for Higher School Certificate subjects at the end of fifth and sixth years of secondary education. The certificate is awarded as a result of assessments completed in November each year which are conducted by the Schools Board of Tasmania. Requirements for tertiary entrance are determined by the University of Tasmania.

Senior secondary or 'community' colleges were pioneered in Tasmania and now exist in other States. They concentrate on specialist teaching at a few urban centres. The students also benefit from the transitional step between high school and tertiary education.

Admission policy of the colleges is one of 'open door' to most courses. In recent years there has been an increase in the proportion of students passing directly from high and district high schools as well as an increase in mature-age students studying subjects.

Colleges, especially those in the Hobart area, have expanded significantly into the area of late afternoon and evening programming of classes for the large number of mature-age part-time students.

Tasmanian Certificate of Education (TCE)

As part of significant changes to the Tasmanian education system, the Higher School Certificate and the School Certificate are being replaced by the Tasmanian Certificate of Education. The TCE has been developed after wide consultation in the community and with all sectors of education in the State. After initial reservations by some employer representatives, the TCE now enjoys support from employers and from the University of Tasmania.

The TCE, which will cover Years 9 to 12, was introduced for Year 9 students in 1990, and will be fully operational by the end of 1993. Years 9 and 10 will still be assessed internally with standards moderated statewide. In Years 11 and 12 there will be a combination of internal and external ratings on subjects. In addition to satisfying subject-specific criteria, students will be required to show achievement in a range of cross-curricular skills such as being able to work with others in a group situation and to use initiative.

The awards on the TCE will be OA (outstanding achievement), HA (high achievement) and SA (satisfactory achievement). Students who complete a course of study without reaching a level of achievement which is deemed satisfactory will have this fact recorded on their certificate.

In many schools students will keep a record of achievement for each year of their TCE. In these schools these records, together with evidence of other achievements, will be included in a comprehensive portfolio, or Record of Achievement, which students may use to assist entry into the workforce.

9.2 PRESCHOOLS

Until 1969, government preschools were established on the initiative of groups of parents. The Education Department provided buildings but eventually recovered half its outlay from parents.

From 1969 all new facilities for preschool education were provided in kindergartens attached to primary schools. There are now kindergartens which are part of primary schools and others which are not attached to primary schools. Department of Education and the Arts policy aims to provide kindergartens for children of four years and over on 1 January of any given year.

Most preschools are conducted on a sessional basis (i.e. sessions of two to three hours for two to five days per week). Preschool programs generally favour the free play approach with emphasis on children's social and emotional development through creative activities. Parents often assist at some sessions or purchase play materials and educational resources.

At 1 July 1990 there were 148 government primary schools with attached kindergartens and 21 separate kindergartens, with enrolments of 4902 and 765 respectively. Non-government kindergartens form a minor part of total non-government enrolment. No government assistance is received for students enrolled in them.

9.3 PRIMARY EDUCATION

Age of entry to preparatory classes is five years and for Year 1, five and a half to six years of age.

Government primary education caters for children from preparatory to Year 6. Government primary schools seldom enrol more than 600 pupils.

In 1990 there were 165 government primary schools. The majority (159) commenced with a preparatory grade and went to Year 6. There were a further 26 schools which were combined primary and secondary schools (district and district high schools). Of the 37 270 pupils enrolled in primary grades in these schools, 19 106 were males and 18 164 were females. Non-government primary schools seldom enrol more than 400 pupils, and usually have six grades and a preparatory class.

In 1990 there were 38 non-government primary schools. Only 76 per cent commenced with a preparatory grade and went to Year 6. There were a further 24 schools which were combined primary and secondary schools. Of the 10 243 pupils enrolled in the primary grades in these schools, 5104 were males and 5139 females.

The percentage of all school pupils who are enrolled in primary grades had been decreasing consistently in the 1980s. However, in 1987, the percentage started to increase. In government schools there had been a fall from 59.9 per cent in 1982 to 55.5 per cent in 1986, while in non-government schools the drop had been from 54.8 per cent to 51.8 per cent. However, the percentages in 1990 for government and non-government schools were 58.0 and 54.1 respectively.

The major cause of the falling proportion of students enrolled in primary grades was the lower birth rates of the 1970s. Higher birth rates in the 1980s have reversed the trend in recent years.

9.1 PRIMARY SCHOOLS, TASMANIA

Particulars	Government		Non-government	
	1985	1990	1985	1990
Number of schools (a)	166	165	41	38
Number of teachers (b) -				
Males	658	490	95	104
Females	2 171	1 706	470	434
Total	2 829	2 196	565	538
Number of pupils (c) -				
Males	19 335	19 106	4 453	5 104
Females	17 951	18 164	4 548	5 139
Total	37 286	37 270	9 001	10 243

(a) Excludes primary schools with secondary classes. (b) Full-time equivalents.
(c) Includes primary grades in combined primary and secondary schools.

(Source: ABS Catalogue No. 4206.6).

9.4 SECONDARY EDUCATION

Almost all children attend secondary classes starting at an age from 11 and a half to 13 years. The first four years of secondary education (Years 7 to 10 inclusive) are catered for in high schools or district high schools which are non-selective, comprehensive and provide a broad general education.

All, except two high schools in Hobart, are co-educational. The School Certificate is generally gained at the end of Year 10. The final two years (Years 11 and 12) leading to the Higher School Certificate (which is being phased out), are completed in a secondary college or annexe of a secondary college.

These colleges were pioneered by Tasmania in the early 1960s when the two traditional academic high schools, Hobart and Launceston, phased out their junior classes.

The majority of students studying HSC subjects are in their fifth and sixth year of secondary education. However, an increasing number are mature-age students; people who have not been enrolled in secondary education for at least 12 months. The growth has coincided with a large increase in part-time enrolment at secondary colleges; in 1985 there were 2000 part-time students while in 1990 there were 2576 part-time students.

In 1990 there were 34 government high schools and eight secondary colleges in the State. The majority of high schools commenced at Year 7 and went to Year 10. All eight secondary colleges had only Years 11 and 12. In addition, there were 26 combined

Claremont College

The Claremont College, a new secondary college in the northern suburbs of Hobart, admitted its first students in 1990. The college combines Years 11 and 12 courses, with the emphasis being on applied learning and teaching excellence.

Enrolment at the college is 650 full-time students with a capacity to take in extra part-time students.

The college differs from other secondary colleges as students are catered for by four learning centres rather than traditional subject departments. This tends to lead to a narrowing of options when students choose, for example, all math and science subjects.

primary and secondary schools. Of the 26 978 pupils enrolled in secondary grades in these 68 schools, 13 648 were males and 13 330 females. There were 2351 teachers in 1990.

9.2 SECONDARY SCHOOLS, TASMANIA

Particulars	Government		Non-government (a)	
	1985	1990	1985	1990
District and district high schools	26	26	-	-
High schools	34	34	29	28
Secondary colleges	6	8	-	-
Total schools	66	68	29	28
Number of teachers (b) -				
Males	1 494	1 268	342	348
Females	1 179	1 083	372	322
Total	2 673	2 351	714	670
Pupils-				
Year 7-9	19 016	15 263	5 026	5 193
Year 10	5 818	5 402	1 564	1 554
Year 11 and 12	3 899	6 313	1 459	1 954
Total	29 577	26 978	8 049	8 701
Males	15 138	13 648	3 793	4 164
Females	14 439	13 330	4 256	4 537

(a) Includes the secondary classes of combined primary and secondary schools. (b) Full-time equivalents.

(Source: ABS Catalogue No. 4206.6).

In 1990 there were only four non-government schools which were wholly secondary. There were a further 24 with combined primary and secondary classes. Of the 8701 pupils enrolled in secondary grades in these 28 schools, 4164 were males and 4537 females. They were staffed by 670 teachers in 1990.

The trend in secondary grade enrolment is the reverse of primary grade enrolment. As birth rates fell in the 1970s, the proportion of pupils in secondary grades rose. By 1990 the 26 978 secondary grade pupils accounted for 42.0 per cent of total enrolment. The corresponding figure for non-government schools was 45.9 per cent.

Total non-government secondary enrolments have increased 8.1 per cent from 8049 pupils in 1985 to 8701 in 1990. This is at a slower rate than for non-government primary grade enrolments (13.8 per cent).

9.4.1 Retention Rates in Secondary Schools

Apparent grade retention rates are measures of the tendency of students to remain in secondary education from Year 7 to Year 10, Year 11 and Year 12. For example, to calculate the apparent retention rate of students in Year 12 in 1990, the number of those students in 1990 is expressed as a percentage of the number of students in Year 7 in 1985. This is called an appar-

9.3 APPARENT RETENTION RATES SECONDARY SCHOOL STUDENTS, 1990

Years	Male	Female
7-10	96.3	97.3
7-11	59.3	69.0
7-12	39.0	50.5

(Source: ABS Catalogue No. 4206.6).

ent retention rate because the method and calculation does not take account of net changes to the school population due to migration, nor of those students who spend more than one year in the same grade.

In addition to the above general qualification, some Tasmanian non-government schools have no senior secondary top. Others cannot match the range of subjects offered at the government senior secondary colleges. Transfers from one to the other system at the end of Year 10 are a peculiarly Tasmanian cause of distortion of government school apparent retention rates.

While non-government schools generally have much higher retention rates than government schools, there has been a closing in the gap between government and non-government schools for the Year 7 to 10 retention rate. This was brought about by the difficult job market for early leavers in the 1980s which particularly affected pupils of government schools.

9.4 APPARENT GRADE RETENTION RATES, GOVERNMENT AND NON-GOVERNMENT SECONDARY SCHOOLS, TASMANIA

Year	Years 7-12		Years 7-11		Years 7-10	
	Government	Non-government	Government	Non-government	Government	Non-government
1980	25.5	33.6	28.8	46.2	87.7	96.2
1981	24.3	33.8	30.4	49.4	86.7	95.9
1982 (a)	18.9	36.7	27.9	51.0	86.8	98.9
1983	22.3	35.6	33.1	55.7	88.3	97.9
1984	24.8	40.7	34.6	53.9	89.5	99.5
1985	25.5	42.0	36.6	58.1	91.2	97.9
1986	27.1	44.5	38.1	57.2	91.8	98.3
1987	30.2	44.4	42.3	56.6	93.4	99.1
1988	36.1	43.2	52.2	56.1	94.4	98.3
1989	38.1	45.9	55.6	61.1	96.0	98.2
1990	43.2	50.4	63.6	65.2	96.0	99.6

(a) Data used to calculate retention rates to Years 11 and 12 in government schools exclude part-time students. The exclusion of these part-time students causes an apparent decline in retention rates to Years 11 and 12 in government schools between 1981 and 1982.

(Source: ABS Catalogue No. 4206.6).

Adult Literacy and Basic Education (ALBE)

In Tasmania, as in the rest of the developed world, roughly 10 per cent of adults are not literate enough to function at their full capacity. This is known as 'functional illiteracy' but ALBE does not use this term when working with clients. Functionally illiterate people can read and write simple material only.

A different problem is found in people who lack 'basic literacy'. These people may only be able to read and write their own name.

Until the 1960s it was generally believed that illiteracy was a third-world problem. Then the truth of the situation began to emerge and the Tasmanian ALBE program began in 1971.

The program trained a team of volunteer tutors, most of whom worked with one student. ALBE programs were established at Adult Education offices throughout Tasmania. ALBE is now provided through TAFE, the Adult Migrant Education Service (AMES), Skillshare, Jobtrain, Neighbourhood/Community Houses and Colony 47 Community Learning Centre, Workplace Basic Education (WPBE), Aboriginal Adult Education and Training Programs, and the Prison Education Service.

In Tasmania, as elsewhere, there is no such thing as a typical adult literacy student. The problems start in childhood and may be caused by poor hearing or sight, illness, many school moves, isolation, inadequate family background, family trauma, neglect of skills after leaving school to name a few.

The results are that a person may not be able to read material such as newspapers, bus timetables, or instructions on medicines and chemicals. Sufferers may not be able to take responsibility for their own lives and may have to depend on the state. They may also suffer misery and shame.

In the past 'illiteracy' had been seen as a welfare problem and workers were mostly volunteers. Now that inadequate literacy is recognised as a widespread and expensive obstacle to any kind of development, more gov-

ernment funding is being provided to employ paid staff and expand literacy programs.

In 1990 the International Literacy Year (ILY) increased awareness throughout the world. The Tasmanian ILY Forum was established to promote and administer ILY, and the Commonwealth Government provided funding for ILY activities. These included projects such as Writer in the Workplace, advertising, Plain English seminars, workshops for parents and communities, posters, brochures, cartoons, videos, newsletters and kits to promote adult literacy and plain English.

Much additional funding, and time, were donated by interested people and organisations.

In 1989 there had been 1200 adult literacy students in Tasmania getting free tuition through the statewide ALBE program staffed by five full-time and 22 part-time coordinators, and 800 volunteer tutors.

In 1990 ILY promotion provided the safety that adults with literacy problems need to seek help. Enrolments, compared with 1989, increased dramatically:

- Southern Region 100 per cent;
- Northern Region 60 per cent; and
- North-west Region 60 per cent.

The original one-to-one voluntary tutoring is still the foundation of ALBE, but there is an increasing variety of provision: small groups with paid tutors, special classes for disabled people, new initiatives such as the Special Intervention Program for Schools (SIPS), Literacy in Primary Schools (LIPS), Workplace English Language and Literacy (WELL) and Adult Literacy Teaching (ALT), which is the first professional development course for adult literacy teachers. The Commonwealth Government provides some subsidy for these.

(Article contributed by the Department of Employment, Industrial Relations & Training)

In government schools the Year 7 to 12 retention rate has increased from 25.5 per cent in 1980 to 43.2 per cent in 1990. The Year 7 to 11 rate has grown from 28.8 per cent in 1980 to 63.6 per cent in 1990. The Year 7 to 10 rate, however, reflects the poor employment situation, with a rate of 87.7 per cent in 1980 increasing fairly steadily to 96.0 per cent in 1990.

In non-government schools the Year 7 to 12 rate has increased from 33.6 per cent in 1980 to 50.4 per cent in 1990. The Year 7 to 11 rate has grown from 46.2 per cent in 1980 to 65.2 per cent in 1990. The Year 7 to 10 rate, while showing fluctuations over the period, has moved from 96.2 per cent in 1980 to 99.6 per cent in 1990.

9.5 NON-GOVERNMENT OR INDEPENDENT SCHOOLS

Since World War 2, and particularly after the introduction of government assistance to independent schools, changes occurred in the composition of the non-government sector.

The older schools which reflected the pre-World War 2 denominational break-up of the population have continued, with some growth and coordination occurring in the Catholic system.

Starting in the 1960s innovative new secular schools grew out of alternative educational philosophies. The programmed learning systems favoured by some Gospel Chapels and religious

movements like Ananda Marga, were catalysts which helped to start other small primary schools. European migrants brought in novel ideas. Asian migration, to a lesser extent than in other States, introduced new religions.

9.6 TERTIARY EDUCATION

From 1974 to 1986 tertiary education was free for award courses in universities, colleges of advanced education and Technical and Further Education (TAFE) institutions, excluding adult education. During 1988 a \$250 a year fee applied to all enrolments. After widespread student protests the Federal Government announced in 1989 that this measure would be replaced by an income tax surcharge on qualified students.

Until 1990 the three higher education institutions and other Technical and Further Education (TAFE) courses all developed independently. In response to Federal Government funding incentives and penalties, which favour large administrative units, Hobart's University of Tasmania, Launceston's Tasmanian State Institute of Technology (TSIT) and the Australian Maritime College formally commenced amalgamating in September 1989.

Under the *Higher Education (Amalgamation) Act 1990*, which took effect on 1 January 1991, a new University of Tasmania was established consisting of the former University of Tasmania and the former Tasmanian State Institute of Technology.

These are now referred to respectively as the University of Tasmania at Hobart and the Uni-

9.5 TASMANIAN STATE INSTITUTE OF TECHNOLOGY ENROLMENTS

Faculty	1989	1990
Agriculture, Animal Husbandry	33	12
Architecture, Building	196	213
Arts, Humanities and Social Sciences	609	899
Business, Administration, Economics	629	768
Education	772	832
Engineering, Surveying	34	48
Health	657	787
Law, Legal Studies	-	35
Science	412	598
Non-Award	50	-
Total	3 392	4 192

(Source: *Selected Higher Education Statistics 1990: Department of Employment, Education & Training*).

versity of Tasmania at Launceston. The new University is, however, administered as a unified institution with a single governing body (the Council), a single Vice-Chancellor, and an Academic Senate which advises the Council on all academic matters.

The legislation also provides for the inclusion in the new University of a third institution, the Australian Maritime College at Launceston. However the necessary administrative and governmental steps have not yet been taken to incorporate the college in the new University.

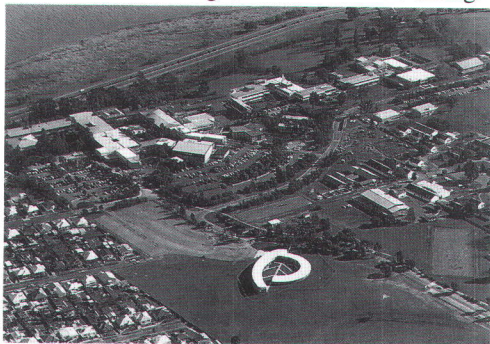
At the same time an Education Tasmania consortium was set up to market overseas all Tasmanian senior secondary and tertiary courses for full fee-paying students, public and private. South-East Asia was the first area targeted.

University of Tasmania at Launceston

The Launceston Campus continues to grow. In 1990 student enrolments were 4192, an increase of 800 on the figure for 1989. The number of academic staff also increased from 197 (FTE) to 202 in the same period, while the number of general staff increased from 183 to 196.

The Launceston Campus offers a range of applied research and consultancy services to the Tasmanian community. There are significant ongoing research programs in the areas of Applied Science, Architecture, Business Studies, Education and Nursing.

In late 1990 it was announced that the Launceston Campus would receive funds to establish a timber architecture and engineering course. The primary aim of the course is to provide education programs to cover all aspects of engineered timber products and to improve skill levels in timber design, evaluation and training.



University of Tasmania at Launceston.
Photo: The Examiner

9.6 AUSTRALIAN MARITIME COLLEGE ENROLMENTS 1990

Course	Total
Grad Dip Bus (Shipping)	124
Grad Dip Fisheries Tech	1
B Eng (Maritime)	45
B App Sc (Fisheries Tech)	71
B App Sc (Marine Eng)	66
B App Sc (Nautical Studies)	1
Dip App Sc (Nautical Sc)	89
Dip App Sc (Shipmaster)	173
Dip Eng (Marine)	9
Assoc Dip Maritime Electronics	25
Assoc Dip Radcomm	5
Cert Tech Fisheries Ops	57
Cert Small Craft Operations	88
Cert Marine Ops	421
Mathematics Induction	21
Engineering - Non Award	7
Fisheries - Non Award	10
Nautical Studies - Non Award	11
Total	1 224

(Source: Australian Maritime College Annual Report of Council 1990).

The University will also participate in applied research in conjunction with the Australian Furniture Research and Development Institute and the TAFE High Technology Skills Training Centre.

The Australian Maritime College

The Australian Maritime College comprises a third national 'Key Centre' in Launceston's suburb of Newnham with its School of Fisheries and training vessels at Beauty Point, 32 km to the north-west.

The College fisheries courses include the Certificate of Technology in Fisheries Operations, which is designed to cover the knowledge requirements for the master of a large fishing vessel. The fisheries degree course teaches the importance of conservation and management of fisheries resources and also covers the marketing side of the industry. Aspects such as fisheries biology, fish chemistry, seafood handling, processing and marketing and fisheries management are covered.

The Bachelor of Engineering (Maritime) is the only full-length engineering degree offered in the north of the State. It gives specialist training, preparing graduates for careers in ports, harbours and off-shore.

The College also offers courses leading to careers in the merchant navy as an Integrated Rating, or a navigating or engineering officer. Students on these courses are selected by the maritime industry through cadetships.

The Bachelor of Applied Science (Nautical Studies) offers options in ship science, hydrography, navigation and environmental science, and in sea transport and maritime business.

Courses offered by the College can be divided into four broad categories:

- courses for those wishing to become operators of merchant ships and fishing vessels;
- a course for those who wish to become shore-based managers in the shipping industry;
- courses to prepare technologists and managers in the fishing industry; and
- courses to prepare hydrographic surveyors, engineers, ship designers and technologists for shore-based careers in the maritime and maritime-related industries.

9.7 UNIVERSITY OF TASMANIA AT HOBART, STUDENTS

	1985	1990
Full-time	3 397	4 232
Part-time	2 050	1 645
Total	5 447	5 877
Males	3 047	2 937
Females	2 400	2 940
Bachelor degree courses -		
Agricultural Science	51	67
Arts	938	1 411
Commerce	392	498
Economics	183	159
Education	573	334
Engineering	252	302
Fine Art	211	317
Law	353	529
Music	78	67
Medicine	280	288
Pharmacy	62	79
Science	642	761
Surveying	45	60
Total	4 060	4 872

(Source: ABS Catalogue No. 4206.6).

The courses offered by the College have direct relevance to occupational categories within the maritime and maritime-related industries. Maximum use of credit transfer provisions are a feature of the courses for ship operators. Articulation between courses and credit for skills and knowledge gained on the job provide an opportunity, for those who have not completed senior secondary schooling, to gain a diploma and professional recognition in their occupation.

University of Tasmania at Hobart

The University of Tasmania was founded in 1890 and was the fourth university to be established in Australia. Teaching began in 1893 with three lecturers and six students, in Domain House, Hobart.

The site at Sandy Bay was chosen in 1944. Temporary huts were used until 1957 and by 1973 all departments of the then eight faculties were housed in permanent buildings.

By 1990 the university had 10 faculties: Agricultural Science, Arts, Economics and Commerce, Engineering and Surveying, Law, Medicine, Science, the Tasmanian School of

9.8 UNIVERSITY OF TASMANIA AT HOBART DEGREES CONFERRED, 1990 (a)

Higher Degrees	
<i>Award gained</i>	<i>No.</i>
Ph.D	13
Master	99
Total	112
Bachelor Degrees	
<i>Course</i>	<i>No.</i>
Agricultural Science	14
Arts	233
Economics/Commerce	150
Education	99
Engineering/Surveying	49
Fine Art	49
Law	39
Medicine	74
Music	20
Science	196
Total	923

(a) Completed 1989.

(Source: Facts in Figures 1990).

9.9 UNIVERSITY OF TASMANIA AT HOBART, ACADEMIC TEACHING AND RESEARCH STAFF (a), 1990

Accounting and Finance	12.0
Economics	20.4
Law	21.0
Education	34.2
Engineering	29.0
Mathematics	11.3
Surveying	4.0
Humanities	36.0
Medicine	44.5
Science	90.4
Social Science	31.4
Music	14.3
School of Art	24.5
Total	373.0

(a) Full-time equivalents.

(Source: *Facts in Figures 1990*).

Art, the Tasmanian Conservatorium of Music, and the Centre for Education.

Students will normally have completed a full secondary education. There are quotas on new enrolments in some professional courses such as medicine and pharmacy. Although there are provisions for mature-age entry, the majority of students enrol straight from school.

The campus offers full-time and part-time courses as well as external study. In 1990, 72 per cent of students were enrolled in full-time study. Bachelor degree courses comprised 79 per cent of total enrolments.

Between 1985 and 1990 there was a significant change in the proportions of part-time and full-time students at the Southern Campus. In 1990 the proportion of part-time students enrolled was 28 per cent as compared to 38 per cent in 1985.

Whereas enrolments in most Bachelor degree courses rose between 1985 and 1990, enrolments in the Education faculty actually fell by over 200 during the corresponding period.

Developments

During 1989 major developments occurred in the areas of student recruitment, overseas student policy, student performance and new courses. The University established a School and College Access Program (SCAP) to improve the proportion of students continuing

from year 12 to university. In 1988 only 42 per cent of HSC-qualified students enrolled at the university.

From 1990, all new overseas students entered Australia on a full fee-paying basis. In order to maintain this group as a significant proportion of total enrolments, the University has set up an Overseas Student Unit. The aim of the unit is to market the University's courses overseas, to manage admissions and to coordinate the provision of student services to overseas students. The unit will also provide assistance with the English language, accommodation and welfare services. The aim of the unit is to increase the number of fee-paying overseas students to 300 by 1993.

The university is currently looking at the relationship between enrolments and the completion of diplomas and degrees with the Centre for Education undertaking research into the nature and location of problems encountered by students.

Some of the new courses introduced by the university in 1989 included a reorganisation of the Economics degree (including Health Economics, Financial Markets and Forecasting as new subject areas), a review of the Engineering course, course reviews by the Faculty of Medicine and an expansion of the Science Graduate Diploma program.

Research

Like other universities, the Tasmanian State University has a dual purpose: teaching and research. Research funds are received from the Federal Government as recommended by the Department of Employment, Education and Training, from other public bodies and from the private sector. In 1989 expenditure on research was more than \$6.6 million.

A feature of the 1989 year was the implementation of a new research management plan approved by the Professorial Board. The goal has been to encourage research excellence, promote high level research training at post-graduate and post-doctoral levels and develop the research skills of staff. The strengthening of links with public and private sector organisations to facilitate collaborative research and to exploit special advantages have been important factors in several new research initiatives.

An Academic Director of Research was appointed and an Office of Research and Post-

Graduate Affairs established as an integral part of the university research management strategy. The office provides research policy support and centralised administration of all research higher degree students, scholarships, awards, research grants and sponsorships.

The university continued to strengthen links with outside organisations, including Commonwealth and State Government agencies. Many research links were also forged with private industry. As a direct result of research collaboration, an additional special purpose centre for Applied Research in Furniture Design was established as well as a second National Key Centre for Teaching and Research, known as the Centre for Ore Deposits and Exploration Studies. These centres have complemented research concentration already established in the Institute of Antarctic and Southern Ocean Studies and four special purpose research centres. Several other centres are planned.

9.7 TECHNICAL AND FURTHER EDUCATION

Technical and Further Education, which includes adult education, is provided at colleges at Hobart, Launceston, Devonport, Burnie and Queenstown and a number of separately provided but administratively linked adult education centres run by the Division of Technical and Further Education of the Department of Education and the Arts. Centres in Smithton, Scottsdale, Campbell Town, Oatlands and Huonville provide a limited range of courses.

Since July 1989, the Division of TAFE has been part of the Department of Employment, Industrial Relations and Training.

9.7.1 Technical Education

Technical courses are designed in consultation with industry and on successful completion, a student is awarded a certificate. A number of these courses have been nationally registered by the Australian Council of Tertiary Awards. In 1987 a new State TAFE accreditation system was introduced.

Associate Diploma courses meet the increasing needs of para-professional personnel in

areas such as engineering, accounting, computing, child care and social welfare.

Trade courses combine theoretical and practical aspects of the trade and are complementary to employer training given to apprentices. 'Block-release' of apprentices for periods of two to three weeks at a time in a technical college has replaced day release and correspondence courses for some trades. Post-trade courses are available to extend the skills and knowledge of tradespeople.

Vocational courses provide for non-apprentice training and include fashion, clothing manufacture, supervision, commercial and secretarial studies.

Correspondence courses for isolated students and others who are unable to attend regular classes are administered through the Hobart Technical College. In 1990 a new accommodation block for 90 students was completed for the Hobart Technical College on the Eastern Shore of the Derwent at the old Warrane High School site.

Of the 20 523 students enrolled in technical courses in 1989, Business Studies accounted for the largest proportion of students (26.7 per cent) followed by Engineering (22.2 per cent) and General Studies (16.9 per cent).

9.7.2 Adult Education

Adult Education operates throughout Tasmania as part of the Department of Education and the Arts with major centres in Hobart, Launceston, Devonport, Burnie, Queenstown and Campbell Town. The Southern centres at South Hobart, Eastern Shore/Rosny/Rokeby, Glenorchy, Kingston and the Huon now operate under the Domain House College of Adult Education with enrolments, administration and enquiries centralised at Domain House. Small centres operate at Oatlands and Wynyard.

A wide range of activities from whole term courses to full weekend, single day or shorter workshops is offered. The Grange Residential College at Campbell Town features live-in activities in the form of weekend workshops, and longer summer school activities. Five subject areas include creative and performing arts, home skills, work and business skills, languages, personal well-being, owner building, Aboriginal education, migrant education, basic education, literacy, etc. The characteristic of its

work is to start innovative programs and respond to community needs.

Of the 25 004 students enrolled in Adult Education courses in 1989, Personal Services accounted for 28.4 per cent of total enrolments, followed by Industrial Services with 19.1 per cent, and General Studies with 17 per cent.

9.8 LIBRARIES

Tasmania is served by a network of different types of libraries, almost all of which have some computerised information and cataloguing services.

9.8.1 The State Library

The State Library of Tasmania provides a range of state-wide services to meet the information, educational and recreational needs of the Tasmanian community. In July 1989 the State Library was amalgamated with the Department of Education and the Arts, and the Archives Office of Tasmania now reports directly to the Department.

The State Library of Tasmania provides and manages all public library lending and information services in Tasmania through a network of city and branch libraries, bookmobiles and book depots. Following the Cresap Review of library services, in 1990, 28 branch libraries were closed and public library services were restructured from seven regions to two areas, North and South. Public libraries hold a stock of 950 000 items, and in 1989-90 approximately 4.4 million items were borrowed. A Housebound Service and a Recorded Book service are widely available to people with disabilities.

Reference and information services are provided to the Tasmanian public by the State Reference Library and the research collection of the Tasmaniana Library, which specialises in Tasmanian material.

A growing number of easy to use CD-ROM products are being made available through the State Reference Library and are expected to have strong public appeal. A Kurzweil Personal Reader is available to sight-impaired patrons, and has the facility to copy printed matter onto personal computer disks.



*State Library of Tasmania.
Photo:
Tasphoto Services*

9.8.2 Special Libraries

There are 62 special libraries within Tasmania serving State and Commonwealth government departments and private industry. Approximately 49 of these are managed by librarians.

The Government Library and Information Services (GLIS) manages library and information services for the State government sector through agreements between the State Librarian and Heads of Agencies. The librarian of each agency reports to the Senior Librarian of GLIS. There are 15 special libraries within the GLIS system serving State government departments. These special libraries include the Department of Parks, Wildlife and Heritage library, the Forestry Commission library and 'The State Offices' library which serves a number of departments.

The Parliamentary Library is not part of the GLIS system however the State Librarian has the power to make arrangements with the Parliamentary Library Committee for the provision of services for the members and officers of Parliament.

There are a few special libraries serving Commonwealth government departments. These include the Commonwealth Scientific and Industrial Research Organisation library, the Attorney General's Department library and the Australian Bureau of Statistics library.

Other special libraries include those that service private industry within the State, such as Australian Newsprint Mills and The Electrolytic Zinc Company.

9.8.3 Academic Libraries

The University's southern campus maintains one of the largest libraries in the State. The central and branch university libraries together hold over 700 000 items. Branch libraries include the Sci-Tech library, covering the Engineering and Physical Sciences as well as Computer Science; the Bio-Med library covering life sciences; a Law library; a Clinical library; an Art library and a Music library. The University's Northern Campus (formerly TSIT) library holds over 175 000 items.

9.8.4 Education Libraries

The Department of Education and the Arts has libraries under professional control (mostly part-time) in 113 of its colleges and schools. In addition to this there is an Education library and a Media library. The former is a specialised library with strong book and journal collections in all major areas of education. This library's prime objective is to provide curriculum development support.

The Media library is an active lender of videotapes, kits and films to all schools and colleges throughout the State. There are also District libraries in the North, North-west and South which provide support to teaching staff.

9.9 MUSEUMS

The Tasmanian Museum and Art Gallery has its origins in early scientific groups formed in Hobart Town in the 1820s and 1830s.

In 1852 the Royal Society of Tasmania established a museum which was later vested in a Government Board of Trustees in 1885. The first building on the present site, on the corner of Argyle and Macquarie Streets, was designed by one of the city's best-known colonial architects, Henry Hunter (1832-1892), and completed in 1863. Later additions were made in 1889, 1901, 1966 and 1979. In 1987 work resumed on the restoration of the Private Secretary's Cottage, located within the city block partially occupied by the museum's buildings, and dating back to at least 1815, with the assistance of a grant from the National Trust Preservation Fund (Hobart). In 1988 the Commissariat Bond Store, built in 1824 and facing the Campbell St frontage of the same block, was partially re-

stored. It will be used to house exhibitions following the broad theme of human involvement in Tasmania.

In July 1988, after years of public discussion in the media, the remaining collection of Tasmanian Aboriginal bones held under the *Museums (Aboriginal Remains) Act* of 1984, were handed over to the Aboriginal Trustees appointed under the Act.

The income of the Museum is provided mainly by an annual grant from the State Government supplemented by a contribution from the Hobart City Council. Over 120 000 people visit the Museum and Art Gallery each year.

The Tasmanian Museum and Art Gallery houses collections in the fields of fine and applied art, zoology, geology, botany, history, anthropology and applied science. It is an integrated institution concerned with the whole range of natural and human heritage with particular emphasis on Tasmanian exhibits.

The Museum's traditional function, and still the major part of its operation today, is to collect, conserve, study and display items of cultural or scientific value to the community. It now performs a wide variety of additional roles, which include a continuing program of travelling exhibitions and a school education service which utilised the *Musbus*, a van specially equipped for transporting museum displays.

The Tasmanian Herbarium, housed in a new building completed in 1987 at the southern campus of the University, is part of the Museum. It includes specimens collected early in Tasmania's history by R.C. Gunn, many of which are type specimens. Other early collectors represented include Archer, Meredith, Milligan, Stuart and Spicer. The Herbarium's current holdings number about 120 000 specimens of Tasmanian plants.

The West Coast Pioneers' Memorial Museum at Zeehan has operated as a branch of the Tasmanian Museum since 1965. It deals with the history of the West Coast of Tasmania, with an emphasis on mining, and is visited by about 100 000 people each year.

The Local Advisory Committee, with the support of the Trustees, has put great enthusiasm and skill into a development proposal which includes the establishment of an underground mine with displays, together with a working electric railway and aerial ropeway. The Mt

Farrell mine head-frame was removed from Tullah and re-erected at the site of the proposed mine shaft with Army, Hydro-Electric Commission and Electrolytic Zinc Co. assistance. The Army also recovered a stamp battery from the Kelvin Mine, a blast furnace from the Coleback Mine and draw-lift, beam-pump components from the Sterling Mine. Navy personnel recovered two steam engines and a boiler from derelict vessels at West Strahan. Paralleling a growth in tourism, small collections on public view have developed throughout the island.

9.9.1 Special Exhibitions

Within the limited resources of the Tasmanian Museum and Art Gallery, standing displays are regularly changed and visiting exhibitions are mounted. Temporary exhibitions mounted during 1990 included:

- 'The Smorgon Family Collection of Contemporary American Art.' An exhibition representing the work of 26 major American artists of the eighties.
- 'Puppets.' Performances by the Tasmanian Terrapin Puppet Theatre.
- 'Australia's Italians 1788-1988.' An exhibition prepared by the Italian Historical Society of Victoria and supplemented by material lent by the Italian community in Hobart.
- 'The Voyager Retrospective Exhibition.' The achievements of the Voyager spacecraft during their 12-year mission commencing in 1977.

9.9.2 Queen Victoria Museum and Art Gallery

The Queen Victoria Museum and Art Gallery was established by the Tasmanian Government in 1891. Since 1895 its management has been vested in the Launceston Corporation with financial support from an annual State Government grant.

In 1990 the museum employed 38 full-time staff and 26 part-time staff. It serves primarily the northern half of Tasmania, with public galleries containing collections and exhibits of particular significance to the natural and cultural heritage of Tasmania. Education, research, con-

servation and information services are also provided.

The Museum presents permanent exhibitions on the mineral wealth of Tasmania, its unique fauna, colonial art, Tasmanian history and contemporary craft. It also houses one of only four Planetaria operating in Australia. It has three temporary exhibition galleries which, in 1990, presented a program of 27 different exhibitions, 19 of which were generated within the Museum.

Highlights of 1990 were the visits of the touring exhibitions *The Prints of Margaret Preston* and the *Drawings of Albert Tucker*, which were able to be shown in the controlled atmosphere of the Museum's Southern Gallery; and exhibitions curated by Museum staff *Eric Waterworth An Inventive Tasmanian* and *Mytie Peppin 1935-1990*, both of which documented the achievements of Tasmanians.

The education office of the Queen Victoria Museum and Art Gallery provides a service to schools throughout northern Tasmania. The Office lends a wide range of items to schools and presents education programs based on the exhibitions in the museum. It also operates a touring program which sends exhibitions to isolated schools in the north and north-west of Tasmania. Public programs in the form of lectures, workshops, excursions and school holiday programs are also presented. Staffing decreased from 2.5 positions to one during 1990.

The Museum has two branches. Macquarie House, in Launceston's city square, presented exhibitions on the Launceston Heritage Review and the Launceston Volunteer Artillery during 1990. Launceston Maritime Museum and Local History Centre, situated in the architecturally unique Johnstone and Wilmot building, presents displays on Launceston's maritime heritage. Exhibitions in 1990, such as the *Lure of the Trout*, were based on the Museum's active oral history program. It also houses the Museum's archive collection, making documents, records and photographs accessible to the public.

Two smaller annexes are operated at Launceston's Cataract Gorge, the Band Rotunda and the Gorge Interpretation Centre, which emphasise the historic, recreational and cultural importance of the Gorge to the Launceston community.

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Chapter 10

HEALTH

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Chapter 10

HEALTH

The desire to attain good health is universal. Throughout history man has always endeavoured to protect his health, at first by devising techniques and selecting special individuals to ward off 'evil spirits'. Observation and experience gradually identified ways for keeping well. Laws were developed to govern health and, as large communities developed, methods of sanitation were devised. But it was not until the 1800s with the discovery that germs caused disease, that significant advances in man's understanding of, and ability to successfully treat, illness were made.

Yet, for all the knowledge and resources now directed towards attaining good health, death, disease, injury and illness are still part of everyday life, present everywhere and touching all of us.

10.1 MORTALITY

In 1990 the deaths of 3713 resident Tasmanians were recorded. This was 23 more than the 1989 figure of 3690, and represents a crude death rate of 8.1 per 1000 mean population. Of the deaths, 2046 were males and 1667 were females, a ratio of 123 males for every 100 female deaths.

Up until age 75 male deaths outnumbered female deaths. The reversal in the 75 and over age group occurs because of the higher number of females of that age in the population. In all groups the age-specific death rate of males is higher than that of females and for most age groups the male rate is almost twice the female rate. The death rate among infants, children aged less than one year, is higher for males than for females.

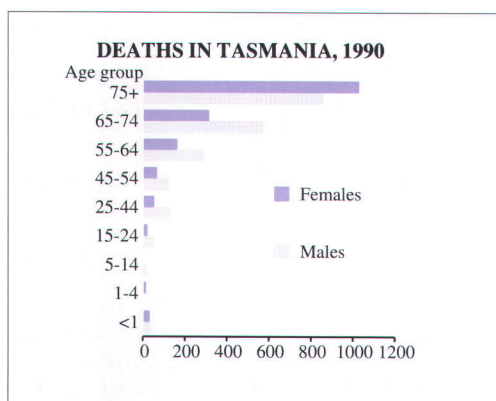


Cardiac unit, Royal Hobart Hospital (installed 1991).
Photo: The Mercury

10.1 DEATHS IN TASMANIA, 1990

Age group (years)	Males	Females	Persons
Under 1	35	28	63
1-4	4	11	15
5-14	9	8	17
15-24	48	16	64
25-44	127	48	175
45-54	119	62	181
55-64	280	159	439
65-74	572	310	882
75 and over	852	1 025	1 877
Total	2 046	1 667	3 713

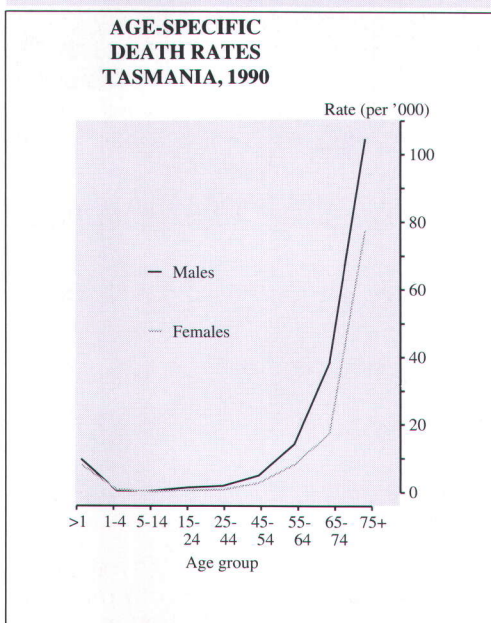
(Source: ABS Catalogue No. 3312.6).



10.2 AGE-SPECIFIC DEATH RATES, TASMANIA, 1990

Age group (years)	Males	Females
Under 1	9.67	8.18
1-4	0.28	0.82
5-14	0.25	0.23
15-24	1.33	0.45
25-44	1.81	0.69
45-54	4.93	2.66
55-64	14.21	8.10
65-74	38.65	17.57
75 and over	104.63	77.59
All ages	9.03	7.26

(Source: ABS Catalogue No. 3312.6).



10.1.1 Causes of Death

Four causes of death accounted for just over two thirds of all deaths registered in 1990. These were Ischaemic heart disease (25.4 per cent), Cancers (25.1 per cent), Cerebrovascular disease (8.5 per cent), and Accidents, poisonings and violence (6.6 per cent).

Most deaths among people aged from 1 to 44 years result from motor vehicle traffic accidents, and suicide and self-inflicted injuries. These causes account for over one third (42.6 per cent) of all male deaths, and almost one quarter (21.6 per cent) of all female deaths in that age group.

10.3 PRINCIPAL CAUSES OF DEATH, TASMANIA, 1990

Cause	Proportion of all deaths	Number	
		Males	Females
Ischaemic heart disease	25.4	540	402
Malignant neoplasm	25.1	545	386
Cerebrovascular diseases	8.5	133	182
Accidents, poisonings and violence	6.6	183	63

(Source: ABS Catalogue No. 3312.6).

Around the ages 35 to 40 years a change in the pattern of death takes place. In the 25 to 44 year age group diseases of the circulatory system account for the deaths of 13 per cent of males. This figure jumps to 37 per cent for males aged between 45 and 64 years.

Cancer also becomes significant. Two broad groups, malignant neoplasms of the digestive organs and peritoneum (which includes 'stomach' and 'colon' cancer), and lung cancer account for most cancer deaths. Fifteen per cent of male deaths between 1 and 44 years are due to various forms of cancer. This figure more than doubles to 38 per cent for males between 45 and 64.

While the predominant causes of death among women are similar, the pattern differs in that fewer women die from accidents, poisonings and violence, but more women than men die from cerebrovascular disease.

Diseases of the circulatory system are responsible for 13 per cent of the deaths of women in

the 25 to 44 year age group. The proportion rises to 43 per cent in the 65 to 74 year age group, then to 60 per cent for those 75 years and over. Diseases of the respiratory system account for fewer female than male deaths.

10.2 HEALTH SERVICES

(Article contributed by the Department of Health.)

In 1988-89 the Department of Health undertook a major review of its health services and organisational structures. The 'New Directions' for health were accepted in early 1989 by both major political parties and the process of change began.

The principles underlying the 'New Directions' include integrated regional structures for health service delivery and State-wide emphasis on policy and planning, coordinated through central office.

These new structures will allow:

- greater emphasis on planning and evaluation;
- a focus on the principles of primary health care and health promotion;
- increased community participation in policy, planning and service delivery;
- a move from institutional to community-based care; and
- a multi-disciplinary approach to health service delivery.

The developments during the past two years have been significant and have included:

- abolition of individual hospital boards and creation of three interim regional hospital boards (July 1990);
- establishment of a high level regionalisation task force and reference group to facilitate creation of the regions (July - November 1990);
- development and passage of the *Health (Regional Boards) Act* (passed by both

Houses of Parliament in May 1991 and coming into effect in July 1991);

- appointment of Regional General Managers (February 1991);
- appointment of Regional Health Boards (July 1991); and
- appointment of District Health Forums (October 1991).

Tasmania's restructured health services will result in a move from an outdated system which emphasised institutional care to one which provides better services in areas such as health promotion, illness prevention, and public and environmental health.

It allocates responsibility for provision of services to three regional bases and leaves responsibility for policy development, resource allocation and management coordination with a smaller, streamlined central Department of Health.

Each hospital, community health centre and multi-purpose facility will complement the work and function of major centres.

10.2.1 The Minister for Health

The State Government, through the Cabinet process, has the overall responsibility for State administration and service delivery, including the health portfolio. Cabinet sets the budget framework within which the Health agency must operate.

The Minister for Health is responsible to Cabinet, and to State Parliament, for the overall management of the health portfolio.

The Minister is responsible for the Health agency and specifically for:

- the appointment of Regional Health Boards;
- the appointment of District Health Forums;
- the negotiation of Health Service Agreements with each of the Regions; and
- approval of Regional Quality Assurance Committees.

The Minister may give directions to the Board on specific matters under the *Health (Regional Boards) Act* or other relevant legislation.

10.2.2 The Regional Health Boards

The three Regional Health Boards are in the South, the North and North-West.

Each Board has seven members:

- five persons nominated by the Minister;
- a nurse; and
- a registered medical practitioner.

In addition, the Southern Board has as an ex-officio member, the Dean of the Faculty of Medicine.

The new role for the Boards will involve them stepping back from day to day management and looking at the health of the population and the factors that determine the health of that population. To a large extent administration of the health services will be left to the management, the clinicians and the other health professions.

The Regional Health Boards will take a greater interest than did the former hospital boards in the actual determinants of ill health so that they can promote nutrition, education, housing and employment.

The Boards will determine broad priorities for the provision of health services; for example, how much is to be spent on aged care as compared with hospital services, mental health, drug and alcohol services, services for the physically disabled and other health service categories.

The Boards will be funded to undertake their functions through annual *Health Service Agreements* which will outline the range, level and distribution of health services to be provided in the region, the resources to be made available to each Board and the overall policy framework in which each Board will operate.

The General Manager of each Board is responsible for the overall management and administration of the facilities, services and resources under the Board's control.

The General Manager is responsible to the Secretary, Department of Health for a number of matters.

10.2.3 District Health Forums

One of the exciting initiatives in the new framework for health planning and service

delivery in Tasmania is the establishment of District Health Forums.

There will be 15 District Health Forums - four in the North-West, six in the North and five in the South. They are:

- North-West districts based around -
King Island
Circular Head/Burnie
West Coast
Ulverstone/Devonport/Latrobe
- Northern districts based around -
Furneaux Group
Launceston
Deloraine/Westbury/Beaconsfield
East Coast (Bicheno and north)
Campbell Town/Ross/Longford
North East
- Southern districts based around -
Hobart
Glenorchy
Huon/Channel/Kingborough/Bruny Island
Clarence/East Coast
Southern Midlands/New Norfolk/Ouse

The Forums are designed to represent the broad range of interests and the socioeconomic and ethnic groups within the District.

They represent a Government and Agency commitment to social justice principles in creating real opportunities for community participation in the health decision-making process.

The role of District Health Forums is to ensure people have a say in the planning of their health and the health of their communities.

10.2.4 The Secretary and Central Office

The Central Office is responsible for overall State-wide policy and planning.

The Secretary is the Chief Executive of the Agency, of which the Regions are a key part. As Chief Executive and senior adviser to the Government on health matters, and the administration of the Agency, the Secretary is responsible for the public health system in Tasmania.

The Secretary is also responsible for:

- Commonwealth/State negotiations;
- high-level, inter-agency negotiations on a State level;

- industrial relations;
- maintenance of standards;
- management of the Agency budget;
- State-wide policy and planning;
- development of State-wide information systems; and
- State-wide technology planning.

10.2.5 The State Health Plan

An integral part of the Department of Health's planning process is the development of the State Health Plan. The Department published an Issues Paper in May 1990, encouraging public comment and consultation.

The input received will be combined with other Departmental information, such as morbidity data and population characteristics, to form the basis of the Plan and the planning process.

The State Health Plan will consist of a number of papers released progressively over 12 months. These will consist of Issues Papers and Background Papers.

The first Issues Paper, *The Mission and Development of the Tasmanian Health System*, was released in April 1991.

Two background papers, *The Public's View* and *The Regionalisation of the Tasmanian Health System*, were released in September 1991.

The second Issues Paper, *Goals and Targets of the Tasmanian Health System*, was released in early 1991 followed by Regional Health Plans, policy papers on specific groups such as women, children and the aged.

The third Issues Paper will outline the roles and responsibilities of Central Office.

Further papers will provide operational health plans from each of the Regional Health Boards and policy positions on areas such as aged care and women's health.

The State Health Plan will give overall policy framework for the development of our health services. The planning process is a consultative one, seeking regular input from regional management, staff and the community.

10.3 OCCUPATIONAL HEALTH AND SAFETY

The legislation covering health and safety at workplaces in Tasmania is administered by the Department of Employment, Industrial Relations and Training, and the Department of Resources and Energy via the *Industrial, Safety Health and Welfare Act (1977)* and *Regulations and the Mines Inspection Act (1975)* with its Regulations.

The Occupational Health Branch of the Department of Health provides expert advice on medical, health and industrial hygiene aspects of the workplace to government departments, private industry, unions and individuals on request. In the last year cost recovery mechanisms have been introduced and have stimulated demand for these services.

The branch has the most comprehensive collection of air sampling equipment to monitor dusts and chemicals in the workplace. Recently completed projects have included airborne monitoring of dust levels during asbestos removal, heat stress monitoring in a large laundry and steriliser gas monitoring in hospitals.

Teaching is also regarded as a priority. Regular lectures and demonstrations are carried out for the University of Tasmania, the Australian Maritime College, Further Education Colleges, the Trade Union Training Authority, Tasmanian Trades and Labour Council and technical areas.

The Branch has the most comprehensive collection of occupational health and safety references in Tasmania to back up its services and to respond to outside requests for information. Frequent use is made of computer-based literature searches and a CD-ROM-based information system.

There is such an obvious need for these services to the Tasmanian community that the Branch is poised for expansion and for changes to improve its services to its clients.

10.3.1 Employment Injuries

There were 11 542 employment injury claims reported as occurring during the 1989-90 financial year. This is an increase of 1401 on the 10 141 reported as occurring in 1988-89.

Reports of employment injuries to men increased by 12.1 per cent to 9428 from the 8409 reported in 1988-89. Reports involving women also increased: 2114 for 1989-90 compared to 1732 in the previous year.

Of the 11 542 claims reported, 359 were identified as diseases while 11 183 related to accidents. Diseases accounted for about three per cent of all reports, a figure consistent with the pattern of previous years.

In 1989-90, there were five deaths reported in Tasmania, four men and one woman. Compensation paid on these was an estimated \$192 451.

In addition to the five deaths, there were a further five cases where the injured people were unable to resume work as a result of their injuries. These are described as *permanent total disability* cases.

These, and fatalities, because there is no resumption of work, are not used in the calculation of average time lost and average daily compensation figures.

There were also 31 cases where the people were able to resume work, but in a reduced capacity and with a subsequent loss of earnings, due to *permanent partial disabilities*.

10.4 EMPLOYMENT INJURIES, 1989-90

	Deaths	Injuries
Males	4	9 428
Females	1	2 114
Persons	5	11 542

(Source: ABS Catalogue No. 6301.6).

Temporary disabilities accounted for the remaining 11 501 reports, over 99 per cent of all claims.

While generally considered to be less serious than the other three types of disabilities, temporary disabilities can nevertheless involve a considerable amount of time off work and medical treatment before the affected people can resume normal duties.

For the year, an estimated total of \$22.7 million was paid in compensation for all original claims reported to the Australian Bureau of Sta-

tistics, an increase of \$3.1 million over the amount estimated in 1988-89. This gives an average cost for each non-fatal claim of \$1955, and an average of \$96 for each day lost for temporary and permanent partial disability cases. In 1988-89 the average cost for each day lost was \$98.

The average cost for non-fatal claims involving men was \$1979, with a daily cost of \$105; for women it was \$1846 with a daily cost of \$69.

10.4 HEALTH RESEARCH

The Menzies Centre for Population Health Research was established in January 1988 after a Menzies Foundation Workshop was held in Hobart in February 1987. The Workshop recognised the need to stimulate population health promotion, based on research, and recommended the establishment of a Centre for Population Health Research within the University of Tasmania. Tasmania was seen as an ideal place to carry out the aims of such a Centre because of its relatively stable population, and its well integrated medical records.

The Centre has been established to contribute information on the causes of disease and where knowledge is sufficient, to help mount programs which will reduce the incidence of a particular disease. A further goal is to train researchers to national and international levels. Collaboration with a range of organisations such as Yale University, USA, International Diabetes Institute, Melbourne, and Kunming University, Peoples Republic of China will help facilitate this process. The Centre also provides consultancy research services to Government and industry.

Tasmania's relative isolation and small size makes it easier to organise and conduct certain types of population health research requiring the linkage of information from many different sources. Tasmania is well suited to research on the incidence, prevalence, time trends, risk factors and other aspects of more common global health problems, including coronary heart disease.

The research the Centre is now undertaking reflects this, with major projects being conducted in cardiovascular risk factor assessment and reduction, Sudden Infant Death Syndrome

MAJOR RESEARCH PROJECTS

Tasmanian Infant Health Survey

This major research project at the Menzies Centre for Population Health Research consists of both a prospective cohort study and a concurrent case control study.

The cohort study is continuing well. From 1 January 1988 to 30 June 1991 over 5000 infants (approximately 23 per cent of live births) have been eligible to join the study. The hospital response rate has been 96 per cent; the overall home response rate is 86 per cent (92 per cent for 1991).

The first finding from this study was published in the British Medical Journal *The Lancet* in May 1991. The study found that infants placed prone at one month of age are at approximately four times increased risk of Sudden Infant Death Syndrome (SIDS). The public health implications of this work has meant considerable time has been spent discussing it on a national and international level.

Scientific Consensus and Scientific Meeting

In July 1991, a national meeting was held in Canberra to assess the evidence of the link between prone position and SIDS and to formulate Australian policy on infant sleeping position. A number of key scientists presented their evidence on the prone sleeping position and SIDS.

The Menzies Centre team of Professor Terry Dwyer and Dr Anne Louise Ponsonby presented the Tasmanian prospective data. A unanimous consensus was reached that infants should not be placed prone to sleep unless there were specific medical or other reasons.

The meeting affirmed that sleeping prone is a major risk factor for SIDS. A public health program should be mounted to inform health professionals and the public of this risk. This program and its impact should be monitored, the funds being made available for this evaluation. The meeting also affirmed that research is necessary to develop an understanding of the biological mechanisms responsible for the relationship between prone sleeping position and SIDS. This research should be encouraged and supported.

The meeting affirmed that epidemiological research into SIDS is an essential basis for public health policy. Epidemiological research should be regarded as a priority and be adequately funded.

SIDS Monitoring Program

The SIDS rate in Tasmania needs to be carefully monitored in 1992 and 1993. The identification of risk factors for SIDS will lead to changes in the way infants are cared for and this should reduce the number of SIDS deaths in Tasmania. This needs to be monitored as other factors, such as climate, levels of breast feeding, infant viral illness and smoking which may affect SIDS, should also be evaluated.

Cardiovascular Disease Research

Collaborative research is being conducted between Menzies Centre and Kunming Medical College, Kunming, China. This prospective study aims to develop a diet that will prevent high blood pressure. To do this, the local Chinese cuisine is being changed to conform with the Australian guidelines on sodium and potassium intake.

If these guidelines prevent the usual rise of blood pressure with age they will have far-reaching importance worldwide, especially in China where the cost of medication is prohibitive and where stroke is now one of the leading causes of death.

The study will be conducted in two stages:

Stage 1, commenced in September 1991, consists of setting up a new 'Nutrition and Health' cafeteria for student volunteers, in which the modified Chinese diet is being trialled by 200 college students.

Stage 2 consists of the introduction of the diet to 4000 volunteers in the residential workforce of several large factories, where the workers obtain all their meals at the canteen. Another 4000 will adhere to their usual diet. Both groups will have their blood pressure taken and urinary excretion of salt monitored for three years. Dr Trevor Beard, Senior Research Fellow, is working with Professor Wang Tong-Yin to conduct the study.

(Article contributed by The Menzies Centre for Population Health Research.)

(SIDS), kidney disease among Tasmanians with diabetes mellitus, and melanoma incidence.

The Centre is also divided into study subgroups. Both the Tasmanian Cancer Registry and the Tasmanian Diabetes Registry are managed by the Centre. The Tasmanian Injury Database has been established at the Centre with the aid of the National Better Health Program and the State Government. The Menzies Clinic for Better Health conducts individual and corporate health assessments and offers a four week-long Lifestyle Management Program.

Finally, the Centre has established a Health Economics Unit, one of a few in Australia. This provides the national health community with a service which is increasingly in demand, both by pharmaceutical companies and in relation to projects requiring health-benefits cost-analysis.

The World Health Organisation selected the Menzies Centre to be a collaborating centre for programs for the prevention of primary cardiovascular disease (CVD) in the Western Pacific Region. The appointment gives the Menzies Centre the potential to influence the future direction of the treatment of CVD in this country and the Western Pacific. This prestigious agreement will give the Menzies Centre a high profile in the international scientific community.

A range of scientific staff are employed to undertake research including epidemiologists, computer programmers and biostatisticians. This gives the Centre the capacity to analyse its own statistics as well as eventually allowing the Centre to offer a service to other groups.

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Chapter 11

SOCIAL WELFARE

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Chapter 11

SOCIAL WELFARE

The main objective of the Australian social welfare system is the alleviation of poverty. Support for families with children is also provided in accordance with the high value Australians have traditionally placed on family formation and child rearing.

In pursuing these objectives, certain major principles have long been embodied in the system:

- the community as a whole accepts responsibility for the provision of income support to those individuals and families who are unable (or are not expected) to support themselves;
- payments are provided to such people as a right;
- payments are targeted towards particular categories of people in need (for example, to the aged, sole parents, the sick and unemployed) and, generally, according to people's means; and
- support for children is provided in recognition that, at any level of income, people with children have greater needs than do those without.

Historically, the Federal Government became responsible for income security at a time when the only people seen to be 'in need' were those unable, as a result of age, widowhood or handicap, to support themselves. The State Government's role has been one of child welfare, in areas of protection, neglect and care.

In the absence of a commonly accepted framework for describing and analysing 'social welfare' in its totality, two strands are promi-

nent. A large component of 'social welfare' consists of cash payments to people in need. Although perhaps not all-embracing nor definitive, the term income maintenance can be used to encompass all regular cash benefits paid to individuals.

An equally large, if not larger, component of 'social welfare' consists of a vast array of direct services provided by governments, and non-government agencies, often with some funding provided by government.

Together, income maintenance payments and direct services to individuals provide a 'social welfare' system which is a complex net of activities providing communal assistance to individuals that in one way or another involves almost all members of our society.

11.1 INCOME MAINTENANCE

Income maintenance payments to individuals are mostly provided by the Federal Government. During 1989-90, \$20 137 million was expended in Australia on social security and welfare by the Commonwealth.

In 1989-90, \$623 million was paid to Tasmanians in the form of pensions, benefits and allowances.

11.1.1 Pensions

The introduction of a pension for aged persons in 1909 began Australia's national provision of social security payments. Since then a number of other regular income payments have been introduced to meet specific cases of perceived need: for people incapacitated for work, for spouses of age or invalid pensioners, for sole

11.1 DEPARTMENT OF SOCIAL SECURITY PENSIONS PAID, TASMANIA, 1989-90

Pension type	Number of recipients at 30 June 1990	Expenditure (\$m)
Age (a)	38 839	230.8
Invalid (a)	12 532	78.4
Sole parents	8 401	77.5
Widows (b)	1 902	13.6
Sheltered employment allowance	509	3.8
Total	62 183	404.1

(a) Includes wife and carers' pension. (b) Widows' class A pension and supporting parents' benefit were abolished from March 1989 and replaced by sole parents' pension. Widows' class B pension is gradually being phased out. It ceased to be granted after 1 July 1987 except in very limited circumstances.

(Source: Department of Social Security Annual Report).

supporting parents. In addition, disability and service pensions have been provided for returned servicemen and women and their dependants.

11.2 AGE PENSIONS, TASMANIA

Year	Number at 30 June	Financial year expenditure (\$m)
1985	39 782	165.2
1987	38 743	180.3
1988	38 434	198.0
1989	38 557	214.9
1990	38 839	230.8

(Source: Department of Social Security Annual Report).

Age Pensions

Women aged 60 and over and men aged 65 and over are eligible for the age pension subject to income and assets conditions and residential qualifications.

During the financial year 1989-90, \$231 million was paid to aged people in Tasmania. At June 1989, 73 702 people aged 60 or over, of whom 53 per cent were age pensioners, comprised 16 per cent of the State's population.

By the year 2001 an estimated 82 600 persons or 22 per cent of Tasmanians will be aged 60 or over. At the same rate of pension claim, the number of pensioners will increase to an estimated 44 000.

11.3 SERVICE PENSIONS, TASMANIA, JUNE 1990

War service	Number of pensions
1914-18 war	64
1939-45 war	13 433
Korea and Malaya	256
British Commonwealth	1 985
Allied Forces	692
Special overseas service	207
Miscellaneous	141
Total	16 778

(Source: Department of Veterans' Affairs Annual Report).

Service Pensions

In addition to the Social Security age pension, the Department of Veterans' Affairs provides service pensions to male veterans aged 60 years and over and female veterans aged 55 and over. In 16 years the number of service pensions has

11.4 SERVICE PENSIONERS, TASMANIA

Year	Number at 30 June	Financial year expenditure (\$m)
1986	15 895	63.5
1987	15 970	68.8
1988	15 975	69.1
1989	16 162	80.8
1990	16 778	91.2

(Source: Department of Veterans' Affairs Annual Report).

trebled. In that time the composition of the recipients has undergone considerable change due principally to a trebling in the number of World War II veterans reaching the age of eligibility.

Invalid and Disability Pensions

An invalid pension is payable to people over 16 years of age who are permanently incapacitated for work (to the extent of at least 85 per cent), or are permanently blind. At 30 June 1990, 12 532 persons were receiving this pension.

11.5 INVALID AND DISABILITY PENSIONS, TASMANIA

<i>Invalid pension (a)</i>		
<i>Year</i>	<i>Number at 30 June</i>	<i>Financial year expenditure (\$m)</i>
1985	9 820	44.0
1987	10 904	53.9
1988	11 347	62.5
1989	11 930	73.7
1990	12 532	78.4
<i>Disability pension (b)</i>		
<i>Year</i>	<i>Number at 30 June</i>	<i>Financial year expenditure (\$m)</i>
1985	16 743	38.8
1987	15 337	31.8
1988	15 121	35.2
1989	15 164	54.6
1990	15 771	61.6

(a) Includes spouse carer pensioners from 1983. (b) Includes wives and widows.

(Source: Departments of Social Security and Veterans' Affairs Annual Reports).

In addition to the invalid pension provided though the Department of Social Security, the Department of Veterans' Affairs provides a similar pension to veterans as compensation for incapacity accepted as war-service related. At 30 June 1990, 15 771 disability pensions were being paid and expenditure for the year amounted to \$61.6 million.

An allowance equal to the invalid pension can be paid to people who work in approved sheltered employment services, if they are otherwise eligible for the invalid pension. During 1989-90, \$3.8 million were paid as sheltered employment allowances and at 30 June, 509 persons were receiving the allowance.

Widows' Class B Pension

A widows' class B pension is basically payable to a woman aged 50 years and over with no children at 1 July 1987 who is or subsequently becomes a widow.

Widows' class B pension is gradually being phased out. It ceased to be granted after 1 July 1987 except in very limited circumstances.

At 30 June 1990 there were 1902 widow class B pensioners.

Sole Parents' Pension

A sole parents' pension is payable to a person (with at least one qualifying child) who is:

- an unmarried parent;
- a separated husband or wife or a separated de facto husband or wife;
- a parent whose spouse or de facto spouse has been imprisoned for at least 14 days;
- a person left caring for a child and unable to live with his/her spouse in the matrimonial home because of the spouse's illness or infirmity which is likely to continue indefinitely, and prevents the spouse from caring for the child;
- a person whose de facto spouse has died;
- a widow or a widower; or
- a divorced person.

It is not payable where the person is living in a de facto or marriage-like relationship.

At 30 June 1989 there were 7941 sole parent pensioners.

11.1.2 Unemployment and Sickness Benefits

Unemployment Benefit and Job Search Allowance

With rising unemployment during the 1970s and 80s, the number of people receiving benefits has risen considerably, from 12 929 in June 1981 to 17 839 during 1989-90.

As at 1 July 1991, Unemployment Benefit in general was replaced by Job Search Allowance/Newstart Allowance. Job Search Allowance is paid to people aged 16-64 (male), 16-59

11.6 UNEMPLOYMENT BENEFITS, TASMANIA (a)

Year	Number of recipients at 30 June	Financial year expenditure (\$m)
1979	10 420	28.6
1981	12 929	34.7
1983	20 355	78.3
1985	18 870	96.9
1987	18 880	109.5
1988	18 281	118.2
1989	17 463	122.9

(a) Includes job search allowance from 1988.

(Source: Department of Social Security Annual Report).

(female) and Newstart is paid to clients aged 16-64 (male) and 18-59 (female), who have been registered as 'unemployed' for over 12 months. This new arrangement is designed to encourage a shift of the long-term unemployed from welfare dependency either to employment or programs to enhance their employability.

A similar scheme, for 16 and 17 year olds, was introduced on 1 January 1988, the intention being to encourage unemployed 16 and 17 year olds to take up training and employment opportunities rather than become dependent on a long-term unemployment benefit and to remove any financial incentive to leave school early.

Sickness Benefits

A sickness benefit is paid to people who have been temporarily incapacitated for work because of sickness or accident and who have suffered a loss of income as a result of the incapacity or

11.7 SICKNESS BENEFITS, TASMANIA

Year	Number of recipients at 30 June	Financial year expenditure (\$m)
1983	3 750	4.6
1985	1 025	5.5
1987	1 209	7.5
1988	1 285	8.4
1989	1 312	9.4
1990	1 358	10.2

(Source: Department of Social Security Annual Report).

who, but for the incapacity would qualify for the unemployment benefit. At June 1990, 1358 benefits were being paid. An assets test on unemployment, sickness and special benefits for recipients aged 25 and over applied from December 1986 based on the pensions assets test threshold.

11.1.3 Allowances for Families

Family Allowances

In 1976 child endowment, along with tax rebates for dependent children, was replaced by a family allowance, usually payable to the mother.

11.8 FAMILY ALLOWANCE, TASMANIA

Year (a)	Number of dependents	Number of families & approved institutions	Financial year expenditure (\$m)
1983	122 729	61 820	39.1
1985	123 079	62 734	42.8
1987	116 937	60 637	39.5
1988	111 038	57 021	39.3
1989	110 000	56 508	38.2
1990	109 329	56 124	53.6

(a) To 30 June.

(Source: Department of Social Security Annual Report).

People who have the custody, care and control of one or more children under 16, or one or more full-time students aged 16 to 24 inclusive, who are wholly or substantially dependent on them, may receive the Family Allowance. Payments for students aged 18-24 were withdrawn from November 1985 (other than for those in needy families). An income test applies to Family Allowance payments for children under 18.

The number of families and approved institutions receiving Family Allowance has decreased since 1985, while expenditure has increased. In 1986, 62 734 families and institutions received Family Allowance while in 1990, this figure dropped to 56 124.

Child Disability Allowance

A disabled child is one who:

- has a physical, intellectual or psychiatric disability;
- because of their disability needs care and attention that is substantially more than that required by a child of the same age without a disability; and
- is likely to need that care and attention for an extended period.

Child Disability Allowance was formerly known as Handicapped Child's Allowance.

At 30 June 1990 there were 1550 recipients of the Child Disability Allowance, a 64 per cent increase from the 1985 figure of 996. The 1990 financial year expenditure on Child Disability Allowance (\$2.7 million) has almost trebled since 1985.

Double Orphan's Pension

A guardian or an institution may be paid a double orphan's pension for a child under 16, or a dependent full-time student aged 16 to 24 inclusive, whose parents are dead. The pension is also payable if one parent is dead and the whereabouts of the other parent are not known or the other parent is serving a sentence of imprisonment of 10 years or more or is an inmate of a mental hospital and will require care and treatment in that or a similar hospital for an indefinite period. It is also payable in respect of refugee children in certain circumstances.

The number of recipients of the Double Orphans Pension has decreased significantly over the past five years. At 30 June 1985, there

were 110 recipients, while the 1990 figure was only 33, a drop of 70 per cent.

Family Allowance Supplement

Certain low income families are eligible for a family allowance supplement, an income-tested, non-taxable supplement payable for each child under 16 years or dependent full-time students aged 16 to 24 inclusive.

The allowance is generally paid to the person receiving Family Allowance for the child (normally the mother). Family Allowance Supplement was formerly known as Family Income Supplement.

At 30 June 1990, there were 6140 recipients of Family Allowance Supplement. This is a substantial increase from 1985, however since 1988, there has only been a slight increase of 371.

11.1.4 Other Benefits and Allowances

The social security system provides a number of other allowances additional to the main benefit provided, the most significant of which are the special benefit, funeral benefits, and fringe benefits for pensioners.

Special Benefit

A special benefit may be paid to people who are not eligible for a pension, unemployment or sickness benefit but who are unable to earn a sufficient livelihood for themselves and their dependants.

The benefit is designed to meet cases of special need and payments may be made immediately in an emergency.

11.9 FAMILY ALLOWANCE SUPPLEMENT, TASMANIA

Year	At 30 June, number of		Financial year expenditure (\$m)
	Recipients	Children	
1985	1 309	3 607	2.1
1987	1 498	4 102	2.8
1988	5 769	14 122	8.9
1989	5 962	15 009	14.8
1990	6 140	15 352	17.0

(Source: Department of Social Security Annual Report).

11.10 SPECIAL BENEFITS AND FUNERAL BENEFITS, TASMANIA, 1989-90

Benefit	Number of benefits granted	Expenditure (\$'000)
Special	6 600	8 600
Funeral (a)	740	30

(a) Funeral benefit was abolished from 31 Dec 1989 & was replaced by new bereavement measures.

(Source: Department of Social Security Annual Report).

Funeral Benefit

The number of Funeral Benefits granted has decreased from 1021 in 1988-89 to 740 in 1989-90.

Fringe Benefits

The majority of pensioners, beneficiaries of sheltered employment, rehabilitation and supporting parent allowances are entitled to a range of non-cash benefits including concessions on pharmaceuticals, free hearing-aid services, telephone and postal concessions, concessions on some rail and bus travel, council rates, driver's licences, car registration fees, power charges and land taxes.

In addition, the State Department of Community Services provides a number of supplementary allowances to people who are in receipt of pensions or benefits and who satisfy a means criterion.

11.2 DIRECT SERVICES

While it is the Federal Government that provides almost all income maintenance payments, and a large proportion of the finance needed to fund some State Government programs, it is the State Department of Community Services, together with Non-Government Agencies (NGAs) that provide the personalised help to people in need.

Services provided by the Department include disability and community support services and individual, children and family services.

11.11 CHILDREN & FAMILY SERVICES PROGRAM EXPENDITURE, 1990-91 (\$'000)

Community support	4.473
Accommodation assistance	5.873
Child protection and family violence	1.026
Alternative care	3.206
Program management	3.382
Total	17.960

(Source: Department of Community Services Annual Report).

11.2.1 Child Welfare

Child welfare is primarily focussed on neglected or orphaned children and children brought to notice through the courts.

Children Under Supervision

The *Child Welfare Act 1960* provides that children who are found guilty of offences and those who are found to have been neglected may be placed under the supervision of a Child Welfare Officer for up to three years. The principal purpose of the order is to provide advice, guidance, counselling and practical help for the child. The order also requires the child to comply with the reasonable directions of the Officer.

Wards of the State

Wards of the State are under legal guardianship of the Director. At 30 June 1991, there were 374 children under guardianship.

A child may become a Ward of the State in a number of ways. A parent may apply to the Minister to have his or her child admitted as a Ward. This practice is most common in the case of babies who are offered for adoption but who are not suitable for immediate placement.

A Children's Court may declare a child to be a Ward of the State after finding that the child is neglected, or after finding the child guilty of a certain class of offence, such as assault or burglary and stealing.

The Child Welfare Act also provides for a parent to submit a plea at a Children's Court that their own child is beyond their control.

Once a child has become a Ward of the State, the Director of the Department of Community Services becomes his or her legal guardian to the exclusion of all others, including the parents. Through the staff of the Department, and with the help of individuals and groups in the community, the Director may exercise this responsibility for guardianship in a variety of ways.

In many cases it is considered to be in the best interests of a child to provide care by supplementing, rather than substituting for, the care offered by natural parents.

Even when it is necessary to remove the child from his or her normal home, the over-riding aim is to assist both the child and parents so that they can re-establish a normal family relationship.

Foster Care

Fostering is required when children are unable to return to live with their natural parents for long periods of time, or when they are separated from their families for shorter periods of time while their ongoing needs are assessed.

In both these cases, alternative care is provided for children and young people in an environment that closely resembles a normal family. Families who provide this care are recruited and assessed by the Department of Community Services.

As at 30 June 1991, 187 families were approved to offer long-term care for children, and 118 approved to provide short-term care.

While living with foster parents, the foster child is still aware of his or her true identity and in many cases retains periodical contact with his or her natural parents and relations.

In recent years there has been an increased emphasis on children retaining personal contact with their natural families. It has been found that Foster Parents are able to work effectively with natural parents for the benefit of the child.

Children's Homes

Approved Children's Homes are run by charitable bodies across Tasmania to provide short and long-term care for up to 84 children in cottage and hostel-type environments. These homes accommodate children on the application of their parents or at the request of the Department.

In the 12 month period to 30 June 1991, 94 children were cared for in Approved Children's Homes. Of these children, 42 per cent were Wards of the State and 58 per cent were privately placed by their parents. The Department

meets the cost of Wards in placement and provides financial assistance to 81 per cent of children privately placed.

Independent Living

Twenty-five per cent of all Wards aged 15 and over choose to live independently. The Department provides a range of support and financial assistance services to assist these young persons.

Family Group Homes

The Department of Community Services has 17 Family Group Homes distributed throughout the State; all are run by families. This enables children to live in a family atmosphere rather than an institution. Children are cared for here for a short time before they either return to their families or an alternative long-term home is arranged for them, such as with Foster Parents. While each Family Group Home may care for up to six children, the average number in a home at one time is usually four.

In 1990-91, 343 individual children were placed in Family Group Homes for an average length of stay of six weeks.

As at 30 June 1991, 40 children were being cared for in Family Group Homes.

Adoption

While other forms of alternative care and accommodation are short or even long term, adoption is a permanent alternative to substitute care. When a child is adopted he or she becomes a permanent member of a new family with the same rights and legal status as if he or she were born into that family. Adoption should be seen as a service for children rather than a way of providing childless couples with children and this is reflected in the new Adoption Bill.

Adoption Legislation

In 1990-91 61 children were adopted, compared with 71 in 1989-90. Of these, 15 were adopted through the Catholic Private Adoption Agency (CPAA).

For the 12 month period to 30 June 1991, five wards of the State were adopted by families with whom they had been fostered.

Thirty-four children (21 local children and 13 from overseas) were placed with a potential adoptive family during the year. These children

11.12 COMPARISON OF CHILDREN PLACED FOR ADOPTION IN 1988-89, 1989-90 & 1990-91

	Country of Origin		Total
	Australia	Overseas	
1988-89	13	17	30
1989-90	19	12	31
1990-91	21	13	34

(Source: Department of Community Services Annual Report).

11.13 CHILDREN ADOPTED IN 1990-91 BY COUNTRY OF ORIGIN OF THE CHILD AND RELATIONSHIP OF ADOPTERS TO THE CHILD.

Country of origin	Relative/		Total
	Step parent	Non-relative	
Australia	20	25	45
Overseas	-	16	16
Total	20	41	61

(Source: Department of Community Services).

are not included in the 61 children whose adoption was legally finalised during the year.

As a direct result of the decline over recent years in allocations of children from approved overseas adoption programs, the Department's Intercounty Adoption Register was closed in July 1990. This is regarded as a temporary measure and the situation is being kept under review.

At 30 June 1991, 63 couples were on the Department's waiting list for overseas children. There are 16 couples awaiting allocation of a locally-born child.

Residential and Community Youth Services

The Juvenile Custodial Corrective Services Sub-program has been set up to provide custodial care for young offenders while at the same time enabling them to achieve socially responsible behaviour within the family and community.

Ashley Home at Deloraine is the sole custodial institution for young offenders in Tasmania. By providing a safe, humane and responsive

environment while respecting the individual dignity of the internees, Ashley Home aims to achieve the objectives of the Sub-program.

Residential care and supervision is provided for boys and girls who have committed offences and for whom community-based services prove to be inadequate. In general, the age range is from 12 to 17 years, although this year it was necessary to care for one 10 year old girl. Accommodation is available for up to 30 young people.

Young people are admitted to Ashley only when there is no suitable alternative. Ashley is not viewed as a substitute for home and family life, nor as suitable long-term accommodation. It does aim to provide a measure of support and re-direction for its residents, and staff work with probation officers to help residents re-enter the community.

Most residents of Ashley have committed offences, and as a result are subject to orders under the Child Welfare Act. However, in 1990-91 seven residents had committed no offence and were housed at Ashley because of the absence of any other residential facility for seriously disturbed young people.

As Tasmania's adult prison system is not equipped to segregate young offenders from the rest of the prison population, seven young people were transferred from prison to Ashley for periods of remand or sentence during the year. While this is not an ideal situation, and there is some reluctance to place prisoners with much younger children, such transfers occur only after careful consideration for the welfare of those involved.

Educational and Vocational Activities

Ashley includes a special school which is staffed by the Department of Education and the Arts. One of the two teaching positions was removed during 1990-91.

Residents study at a very wide range of academic levels including Higher School Certificate subjects plus basic literacy and numeracy.

A number of residents have attended training and education facilities such as Skillshare, Glenara and Community Colleges to complete long-term certificated courses.

Selected residents approaching independent living have been accommodated in the Indepen-

11.14 ASHLEY HOME ADMISSIONS AND DISCHARGES

	Male	Female	Total
On hand 30 June 1990	9	1	10
Received during year	84	20	104
Total provided service during year	93	21	114
Discharged during year	76	21	97
Remaining at 30 June 1991	17	-	17

(Source: Department of Community Services).

dent Living flat on the poverty. While living semi-independently, skills are nurtured which prepare them to be self-supporting in the community. Involvement in community service projects and activities by residents continued with positive results. The Apex Hut and a reserve area in Deloraine are fully maintained by residents and staff.

Closure of Institutions

The residential institutional functions currently provided by Ashley Home were previously undertaken by a number of Departmental institutions under the Child Welfare Act. These were Weeroona Girls Training Centre in Latrobe (closed 1979), West Winds Home at Woodbridge (closed 1983) and Wybra Hall (closed 1988). These institutions were closed as improved community-based services were developed to provide more appropriate services.

Children in Child Care

There were 4991 places in registered child care facilities throughout Tasmania as at 30 June 1991. A registered facility can be a child care centre, a program in a given location such as a play centre or an individual carer as in family day care. The number of child care places available in the different categories as at 30 June 1991 were:

- Family Day Care (1481 places)
- Play Centres (657 places)
- Centre-Based Long Day Care (1425 places)
- Occasional Care (413 places)
- Outside School Hours Care (1015 places)

Outside School Hour Care

In accordance with the joint approval procedures under the 30 000 place National Child Care Strategy, the Minister approved 330 new Outside School Hours Care places at nine locations throughout the State.

The following places were operational as at 30 June 1991:

- Midway Point (60 places)
- Claremont (30 places)
- Kingston (30 places)

- Zeehan (30 places)
- Burnie (30 places)
- Hobart (30 places)

Vacation Care

In October 1990, the Department assumed management for this program from the Department of Tourism, Sport and Recreation, with the aim of redeveloping the Vacation Care Program as a complementary service to Outside School Hours Care. New funding and operational guide-lines have been developed outlining the objectives of the program, the funding arrangements, the approval processes, the role and responsibilities of management committees and other general information.

During the year, the Department continued its commitment to other child care services by providing \$346 thousand in funding to Early Childhood Services in 71 child care services. These are generally small grants to assist community groups offering a range of child care services. Almost half of this funding was allocated to Neighbourhood Houses to assist with costs associated with back-up child care. This service enables parents—mainly women—to participate in Neighbourhood House activities.

11.2.2 Family Assistance

The Department for Community Welfare has developed a comprehensive program of assistance to individuals and families. The assistance available ranges from cash payments in emergency situations to help with specific items such as spectacles and homemaker schemes.

Emergency Relief Grants to Community Agencies

The State Government holds the view that provision of assistance in this area is a Commonwealth Government responsibility. To a large extent the need for emergency relief arises because of the inadequate levels of pensions and benefits or because of failures within the Social Security system. The provision of emergency relief is often seen as a form of income supplement.

The State Government has a limited responsibility to provide assistance in cases of family crisis or where the well-being of children is threatened because of the lack of financial assistance.

In 1990-91, the Department funded a pilot program through the Hobart City Mission which aims to reduce dependency on the use of emergency relief. Through the provision of support, budget counselling and efficient referral to specialist services, dependency on emergency relief should be reduced.

Other forms of financial assistance were provided by the Department. A Cabinet decision increased Heating Allowances by \$5.00 to \$56.00 per annum and were provided to 9500 households throughout the year. Eligibility for funeral benefits was tightened with \$96 000 provided towards the cost of 97 funerals.

Emergency relief grants to community agencies in 1990-91 totalled \$117 000.

Family Support

Family support services provide parent education, organise self-help groups and provide home management services.

Funding under the Family Support Grants Program was increased from \$580 thousand in 1989-90 to \$620 thousand in 1990-91. This allowed for indexation to be passed on to services.

During 1990-91, emphasis was placed on developing additional supports for management and workers. A part-time training officer was appointed and is currently producing an induction manual and developing programs to address the identified training needs of staff and management committees of community organisations.

11.2.3 Community Programs

Youth Homelessness

In addition to services funded under SAAP, a pilot project to address youth homelessness has been established. The project, sponsored by the Burnie, Launceston and Hobart City Councils, employs a Youth Services Manager and Youth Case Manager in each region. The project targets both chronically homeless youth and those identified as being at risk of becoming homeless. Assistance is provided to ensure that young people are able to obtain access to the full range of services they may need. The project also aims to maximise co-ordination between Government and non-government agencies, at a policy and service delivery level.

The project is stimulating improved case management practices between agencies. A pri-

mary carer is appointed and coordinates all the services the young person may require, such as accommodation, income support, drug and alcohol abuse therapy and professional counselling. The young person is involved in making decisions about addressing his/her problems and is encouraged to understand the different roles that each agency will play.

Disability Services

The trend towards disabled people living at home rather than in special institutions has increased the demand for community support services as disabled people strive for a better quality of life.

The Family Respite Care service is a HACC (Home and Community Care) funded statewide service, providing respite care for families caring for a disabled person. The service enables families caring for a person with a disability to receive support in two ways. A carer may come into their homes to help care for the person with a disability or a host family may have the person with a disability in their home. This enables both the disabled person and their families to have a break.

The service was initiated and developed within the Disability Services Unit, over a two and a half year period, and in April 1989, was transferred to autonomous regionally based community management bodies.

Women's Shelters

Women's Shelters have as their primary purpose the provision of shelter and support services to women and children who have been subjected to domestic violence or who are rendered homeless through some personal or social crisis. Most shelters are not designed to provide accommodation to women and children requiring intensive, sustained specialised services and in cases where it is necessary to provide longer term accommodation and more intensive support, funding is made available to specific purpose refuges. Annie Kenney and Karinya for example accommodate single young women only and Caroline House provides for women with alcohol and drug related difficulties.

Most shelters have not been established to provide longer term support although most are forced into this role because of the increasing difficulty faced by women with children in locating alternative accommodation. The Housing Department continues to provide valuable assistance to both the Launceston and Hobart

Women's Shelters in making special provision for women and children accommodated in refuges who seek public housing. Women moving out of the shelter in need of financial assistance may apply to the Family Assistance Scheme.

Shelters vary in respect of the mode of management employed and the intensity and breadth of services provided to users. Some shelters employ a style of management which involves the users of the shelter in its everyday operations, for example cooking, cleaning, shopping. Staff are free to engage in the primary functions of the shelter, for example the provision of support and information to women in crisis.

Other shelters have adopted a less participatory style of operation and have as their primary focus the provision of accommodation to women and children in crisis. All shelters are required as a condition of funding to provide services which are accessible on a 24 hour, seven day a week basis. Some shelters provide a field work service to women who have left the shelter but who require continued support and visitation to prevent their return to the shelter.

The Crisis Intervention Unit

The Crisis Intervention Unit provides one of the Department's specialist services. It is aimed at providing protection, support and assistance to victims of family violence and referring them to the agencies that provide long-term help. The Crisis Intervention staff provide support by visiting the homes of clients, usually women, as soon as possible after an assault has taken place, offering support and advice. To ensure the safety of the women and children involved, transport is often provided to a shelter or some other form of emergency accommodation.

The women and children involved are supported and assisted in seeking legal advice and additional support services to prevent further violence. A large part of the Unit's work involves referrals to lawyers for legal advice and representation in making applications for Restraint Orders. Crisis workers will accompany clients to see lawyers, to go to Court and to see the police in order to proceed with assault charges.

The Crisis Intervention Unit administers the Domestic Violence Prevention Program. Access to a telephone is seen as an important means of obtaining assistance in case of further violence and enforcing Restraint Orders. The program

enables the Unit to pay telephone installation costs for families being threatened with violence. This fund was also used to improve household security (i.e. to purchase and install security fixtures) where the perpetrator was breaking into the house in order to further assault the partner. The cost of motel accommodation can also be paid under this program, where government funded shelters are full or inappropriate. A total of \$27 523 in financial assistance was spent during 1990-91.

Neighbourhood Houses

The aim of Neighbourhood Houses is to provide resources for individuals and families close to the people who need them, i.e. in the neighbourhood.

Community groups who have broad local community support and interest to develop a Neighbourhood House are eligible for assistance by the Government for developmental costs and for ongoing operational costs. The Neighbourhood Houses are managed by representatives of local communities.

Neighbourhood Houses provide a wide range of community services including recreational activities, child care, fitness classes, life skills classes, adult education, volunteer services, meeting facilities, community newsletters, effective parenting courses, food co-operatives and ante-natal clinics. The mix of these and other activities depends upon the specific interests and needs of the community operating the Neighbourhood House. Free back-up child care is available to allow parents and care-givers the opportunity to participate in activities.

Neighbourhood Houses are located in isolated areas, such as Savage River, Rosebery, Zeehan, St Helens, Geeveston and Dunalley, as well as in urban areas.

There are 29 Neighbourhood Houses funded around the State; expenditure in 1990-91 was \$476 500. In June 1991, the Department ran a one week census to collect information about current users, levels of participation and the nature of activity. The total number of individuals presenting at 21 neighbourhood centres during the census week was 1544. The average number of individuals presenting at each neighbourhood centre was approximately 73. This figure may be extrapolated to provide an estimated attendance, over the 40 weeks of operation each year, of 61 760.

The majority of users were women between the ages of 20 and 39 and approximately one-third had under-school-age children.

The Neighbourhood Houses Grants Program subsidises the operating costs of houses by making a contribution towards rental, power, telephone and administrative costs, and a contribution to the salary of a part-time coordinator.

11.3 NON-GOVERNMENT AGENCIES

It has long been recognised that many welfare services are effectively and efficiently provided by the many voluntary welfare agencies which operate throughout the State.

The non-government sector can usually respond swiftly to emerging community needs and can also provide significant voluntary support to funded services.

In an environment of increasing levels of need, and increasing scrutiny of the spending of the welfare dollar, it is important to ensure that funded programs complement rather than duplicate existing services.

Early Support for Parents (ESP) is one example of a scheme operating under TasCOSS.

ESP is a voluntary scheme in which trained volunteers offer practical and emotional support to families in their own homes. It is accessible to all families in the community with dependent children.

ESP offers practical and emotional support to families whose capacity to function is limited by stress from within, or external to, the family. Such support aims to help alleviate stress and reduce the likelihood of a crisis situation occurring whilst at the same time re-affirming the role and value of parenting. ESP encourages parents to feel that it is alright to ask for and receive help and support in times of stress. They have a team of trained volunteers ready to help when and where they can.

In addition to receiving government grants, voluntary agencies rely heavily on voluntary labour and donations from the public to provide assistance to needy families. Services provided include shelter for the homeless, provision of

household items, food parcels, clothing and toys for families in need, as well as counselling and support services. Many organisations also provide long-term accommodation in hostels and homes for invalid and elderly people.

11.3.1 Tasmanian Council of Social Services (TasCOSS)

The Tasmanian Council of Social Service Inc. is an independent non-government organisation representing a wide range of non-government social welfare agencies.

TasCOSS as part of the national COSS network acts in an advocacy role to the government. Each year TasCOSS submits an Annual Budget Priorities Paper for Tasmania.

TasCOSS as part of the national network is able to have input into Federal Government policy, most recently the Federal/State Funding Agreements (for example New Federalism), also the Medicare debate, unemployment as an ongoing issue for this state as well as other critical social policies.

The objectives of the council are:

- to act as the coordinating body within Tasmania for non-government welfare organisations;
- to promote and uphold the rights of disadvantaged members of the community by supporting non-government welfare organisations working to prevent or relieve injustice, poverty, disability or sickness;
- to inform the public of the causes and the effects of poverty, injustice, disability and sickness and all related matters;
- to provide representation and advice to non-government welfare organisations;
- to liaise and co-operate with Federal, State and Local Governments, government departments, statutory authorities and other organisations as necessary to further the objectives of the Council; and
- to co-operate with ACOSS and other national and international organisations promoting the interests and objectives of non-government welfare organisations.

11.3.2 Religious Agencies

As well as their usual worship and pastoral roles, the churches continue to provide an active social welfare service for the community and to provide input to a range of contemporary social, welfare and health issues such as child poverty and homelessness, and the AIDS situation. In Tasmania, major welfare assistance is provided by the Salvation Army, Anglican Church (Anglicare, ITeC, the Link), the Catholic Church (Centacare, Willson Training Centre), the city missions and the St Vincent de Paul Society. A number of innovative social welfare and training programs have been started in recent years.

Anglicare

Anglicare is the Church caring for homeless young people and families in this State, training the unemployed, providing a financial service to those in debt, preparing people for marriage, mediating family conflicts and counselling for change.

In 1983 there was no financial counselling service operating within Tasmania. Anglicare Financial Counselling Service (AFCS) now handles in excess of 1000 clients per year. AFCS finds that most problems are involved with arranging extension for power, telephone and rent accounts. Those clients who required extensive counselling usually were suffering severe financial problems as a result of loss of employment, in addition to family problems, sickness or marital break-up.

Youthcare runs the Outreach House and the Shelter. The North-West Housing Outreach in Devonport operates the Stewart Street Family Accommodation, Charles Street Youth Units, Archer Street Flats and 'Limani' (for long-term single person accommodation).

Stress within the family unit escalated in the 1980s, although the divorce rate has fallen (largely due to an increase in the numbers of de facto relationships). In an effort to reduce these problems developing within the community, Anglicare has a Marriage Education Programme operating statewide in conjunction with accommodation services available in Devonport. It has also developed the 'Hassles' Family Mediation Service to help cope with the increasing demand for its services.

ITeC and the Job Club are Anglicare agencies which aid the unemployed in today's society.

ITeC, or Information Technology, educates the long-term unemployed in the use of computers. The Job Club was set up by seven unemployed people in the Burnie Parish, five of these have now managed to find employment.

Centacare

Centacare is the Catholic Church's 'weapon' in the fight against the lowering of welfare standards within Australia, specifically Tasmania. Centacare uses its resources in a variety of ways to aid society by providing assistance for the needs of married couples, families and individuals; the needs of children; the needs of lone parents; the Willson Training Centre; migrant welfare work; the school support program and emergency accommodation.

Centacare is one of the two marriage counselling agencies in Tasmania which are approved by the Attorney-General's Department. Counsellors operate in Hobart, Launceston and Burnie in accordance with the National Association of Catholic Family Agencies.

Childcare workers provide day-time programs with educational and play components. Parents have the opportunity to gain assistance in other areas such as medical, housing and legal issues whilst their children are otherwise involved.

Services to Lone Parents include a weekly personal growth-parenting group, the Mustard Seed-Lasar program. The Lasar stands for Lifeskills and support and Relationships. Courses cover such topics as communication, self esteem building, resolving conflicts, child behaviour and management and health issues. Another program is the PRAM (Pregnancy and Motherhood) program, designed for the under 21 year old mother. It provides information about prenatal care, labour and delivery and parenting skills.

Centacare is a registered adoption Agency and as such is actively involved in recruiting parents for the children to be adopted. Birth parents are involved in the selection of the adoptive parents whom they wish to parent the child and ongoing information on the child's development within the adoptive family is available to birth parents on an annual basis. Another part of the adoption service involves adoption search, which is the linking of parties separated by adoption.

The Endeavour Programme is designed for disadvantaged parents and involves a residential

parenting program that includes fun activities for parents and children as well as structured sessions for the parents on personal development and child behaviour. This is a new project that is attracting attention throughout Australia for its innovative approach to parent education.

The Family Life Education Program is based on the principle that parents are the first educators of their children. Information nights are offered in schools throughout Tasmania by invitation from the Principals. Parents attend with their children so that they are involved in the sessions which cover sexuality and relationships.

Fertility Counselling and family planning is another service offered by Centacare which specialises in natural methods of family planning and health promotion. This service is popular with people who seek natural rather than artificial methods of regulating their general health and family planning.

The Catholic Refugee Support Group (CRSG) was established during 1989. CRSG's chief task is to coordinate the Catholic efforts for resettlement of refugees in the Tasmanian community. Close liaison is maintained with the Department of Immigration, Local Government and Ethnic Affairs and with the relative parishes.

The School Support Program has operated during this year in 28 Catholic schools which are predominantly primary schools. The aim of the program is to provide a professional service of social work and general support which will assist in enhancing the well-being of the Catholic School system and help develop the potential of all within the system.

Emergency Accommodation Services aid those families who are temporarily homeless as a result of crises and helps them to move towards more independent living. Two centres which are in operation are St Joseph's Centre, Taroona (occupancy in 1990-91 was 163 persons) and Barton Lodge, Mowbray (occupancy rate in the same year was 192 persons). These operate in conjunction with the Independent Family Accommodation and Support Service which offers accommodation in both Lenah Valley and Hobart. Thirty-three individuals were in residence during the year.

The Willson Training Centre

The Willson Training Centre began operations in July 1981. The Centre is sponsored by

Centacare Family Services and attracts funding from the Department of Employment, Education and Training through the Skillshare program.

It provides training for those people of all ages who are defined by the Commonwealth Employment Service as being long-term unemployed, or face difficulties in finding employment. Initially four courses were operated in Food preparation, Bakery skills, Horticulture, and Concrete moulding. Seven courses are now available. These are: Cooks Assistant, Bakery Skills, Food and Beverage service, Sales and Marketing, Office Skills, Trades Assistant, and Commercial Cleaning.

An Open Access Service is available for job search training, resume preparation, training in typing, word processor operation and computer operation. The Centre also provides assistance in literacy and numeracy. The Centre has attracted over 3000 participants since commencement and has the enviable record of having placed over 1800 into employment, subsequent to their training.

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Chapter 12

TOURISM

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Chapter 12

TOURISM

Tasmanians enjoy an environment and lifestyle that is the envy of many interstate and international visitors. Tasmania's heritage has always been an important drawcard, however the wilderness areas here have also received much publicity recently. These unique attractions continue to captivate tourists, and to encourage further visits to the island State.

12.1 VISITORS

In 1990 a total of 684 264 interstate and international passengers arrived in Tasmania. This was an increase of 18.7 per cent on the number of arrivals in 1989. Passenger arrivals of 576 616 for that year highlighted the impact on tourism of the air pilots' dispute. There were 681 541 passenger arrivals in 1988.

12.1 ESTIMATED PASSENGER ARRIVALS TO TASMANIA (^{'000})

Period	Passenger arrivals	Visitors
1978	557.2	317.3
1981	591.6	337.5
1984	580.4	315.5
1986	629.6	329.5
1988	681.5	406.6
1990	684.3	405.8

(Source: ABS Catalogue No. 8635.6).



Hastings Caves.

Photo: Michael Dermoudy

Just under 60 per cent of all passenger arrivals to Tasmania in 1990 were visitors. Data relating to visitors are collected by the Tasmanian Visitor Survey (TVS), which is conducted by the Department of Tourism, Sport and Recreation. Surveys have been conducted, with the assistance of the Australian Bureau of Statistics, during 1978, 1981, 1984, 1986, 1988 and 1990.

The number of visitors arriving in Tasmania has increased 28 per cent since 1978 while passenger arrivals, which include Tasmanians returning to the State, have increased by 22.8 per cent over the same period.

Much of this increase has occurred since 1986. From 1978 to 1986 the number of visitors arriving had increased by only 3.8 per cent while the total number of passengers rose by 13.0 per cent.

12.2 ORIGIN OF VISITORS TO TASMANIA (%)

State/country of origin	1978	1986	1990
Victoria	51.3	44.4	42.5
NSW	20.7	22.9	21.6
ACT	3.2	3.5	3.3
SA and NT	8.5	7.8	7.0
Qld	7.4	8.4	7.9
WA	3.9	4.0	4.8
Europe	1.1	2.6	5.0
North America	1.1	3.3	3.2
New Zealand	1.4	1.9	2.1
Other overseas	1.3	1.2	1.6

(Source: Tasmanian Visitor Survey, Dept T, S & R).

Most of the visitors to the State have been Victorians although the proportion has dropped from 51 per cent in 1978 to 42 per cent in 1990.

This fall is partly compensated by increases in visitors from New South Wales and Western Australia. The most significant compensating trend is the increase in the number of overseas visitors, rising from just under five per cent in 1978 to 12.8 per cent in 1990. Of these, most are from Europe, North America and New Zealand.

12.3 REASON FOR VISITING TASMANIA (%)

Reason	1978	1986	1990
Holiday -			
To meet friends or relatives	28.9	25.0	28.0
Fly/drive tour	n.a.	24.1	17.2
Coach tour	5.9	4.8	5.1
Other holiday	36.3	19.0	19.5
Other -			
Sporting event	4.0	2.5	3.6
Convention	3.6	5.3	6.7
Business, other purpose	21.3	19.2	19.8

(Source: Tasmanian Visitor Survey, Dept T, S & R).

AIRLINE DEREGULATION

During 1990 the domestic airline industry underwent considerable change. By the end of March the airlines had largely completed rebuilding after the air pilots' dispute and at the same time had commenced restructuring in the lead up to deregulation on 31 October.

12.4 ARRIVALS IN TASMANIA

Period	By air		By sea	Total
	Interstate	New Zealand		
1985	550 045	8 419	69 113	627 577
1986	524 342	10 136	95 139	629 617
1987	526 517	9 446	88 343	624 306
1988	571 344	8 625	101 572	681 541
1989	449 481	8 489	118 646	576 616
1990	555 632	8 629	120 004	684 265

(Source: ABS Catalogue No. 8635.6).

For over 30 years the Australian airline industry has been under tight economic regulation via the 'Two-Airline' agreement. From 1 November 1990 the agreement lapsed, and new airlines are able to compete directly with Ansett Australia and Australian Airlines on all interstate routes. Under deregulation any operator that can satisfy the requirements of the Civil Aviation Authority will be able to start up an airline.

Currently Tasmania is serviced by the following interstate/overseas commercial passenger-carrying airlines:

Air New Zealand - operating from Hobart.
 Airlines of Tasmania - operating from Hobart, Launceston, Flinders Island and Smithton.
 Ansett Australia - operating from Hobart and Launceston.
 Australian Airlines - operating from Hobart and Launceston.
 Chartered Airlines of Australia - operating from Launceston, Devonport, Wynyard, King Island and Flinders Island.
 East West Airlines - operating from Hobart.
 Eastern Airlines - operating from Launceston and Devonport.
 Kendell Airlines - operating from Devonport, Wynyard and King Island.
 King Island Airlines - operating from King Island.

Cataract Gorge and Cliff Grounds Reserve

Cataract Gorge and Cliff Grounds Reserve celebrated its Centenary in 1990.

Imagination, generosity and years of hard physical labour were needed to create Launceston's most spectacular tourism attraction, second only to Port Arthur as a favoured destination.

Kings Bridge, an elegant iron structure spanning the mouth of Cataract Gorge, designed and built by Mr W.T. Doyne and his partner Mr La Touche in 1863, had been standing for over 25 years when a small band of citizens with vision planned a reserve to be laid out nearby; perhaps they were inspired by the presence of the bridge, a great technological achievement for its time.

Several generous citizens, particularly William Barnes, the brewer of Port Dalrymple Beer, and his wife, donated land for the project; and teams of men laboured from 1890 for eight years without the benefit of machinery to cut Cataract Gorge Walk from the face of the gorge, by far the most difficult project undertaken in the Reserve.

Although the area, close to the heart of the city, had been explored in the early 1800s, it was not until 1898 (almost a century later) that the Municipal Council assumed control over the site. Further land was acquired by Launceston City Council so that the Reserve eventually covered 158 hectares along the South Esk River, extending to the disused Duck Reach Power Station.

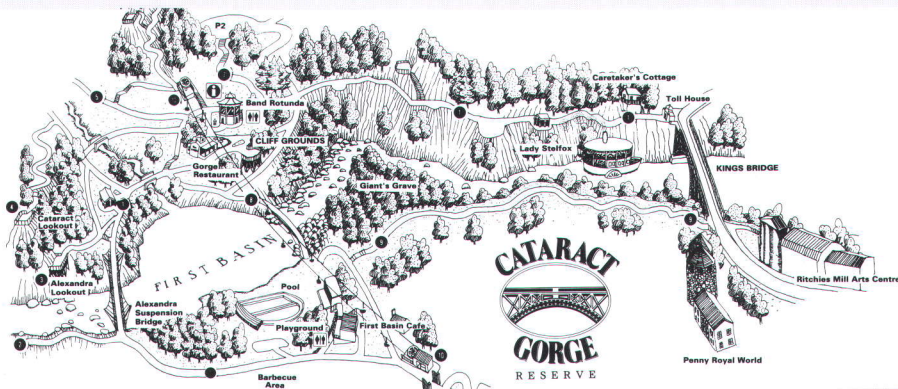
Three lengthy walks take visitors through areas rich in flora, fauna and scenery. The Cataract Gorge Walk, along the northern face of the gorge, to Kings Bridge (about a 15 minute walk); the Zig-zag Track, inland south of the gorge, to the southern end of Kings Bridge (about 15 minutes); and the Bridge Walk, crossing the Alexandra Suspension Bridge and continuing past Second Basin, to Duck Reach (a hike of about 40 minutes).

Less strenuous walks are found on the western (Cliff Grounds) side of First Basin. Besides passing through grounds planted with a great variety and number of native and imported trees and plants, they lead to several lookouts, the Alexandra Suspension Bridge, facilities such as a restaurant, the original bandstand (now a visitor information centre), car park and the upper station of the 457-metre long scenic chair lift which traverses the gorge.

On the eastern side of First Basin, around a large open lawn area, lie swimming and paddling pools, dressing rooms, toilets, shelters, a children's play area, a cafe and kiosk, and barbecue facilities.

Selected areas of the Reserve are floodlit for several hours every night.

Whatever the season may be, a visit to this remarkable Reserve will delight and refresh anyone.



Map courtesy of the Launceston City Council.

Most visitors, around 70 per cent, come to Tasmania to holiday and about 16 per cent come for business reasons.

More holiday makers come to see friends and relatives than for any other reason. In 1990 an estimated 102 700 holiday visitors (about 40 per cent) came to Tasmania for this reason. Another 62 900 (25 per cent of holiday visitors) came on fly/drive tours.

Over a third of visitors include the Port Arthur penal settlement and Cataract Gorge on their itinerary; 29 per cent go to Mt Wellington in Hobart, while Cradle Mountain, Lake St Clair and Hobart Botanical Gardens all are frequently visited.

12.5 PLACES VISITED IN TASMANIA (%)

Places	1981	1990
Port Arthur historic site	51.2	42.4
Lake Pedder	18.4	10.0
Mt Field National Park	16.8	15.6
Mt Wellington	38.9	28.9
Mt Nelson look-out	19.5	15.8
Coles Bay/Freycinet Peninsula	13.1	13.4
Cataract Gorge	37.6	33.3
Central highlands/Great Lake area	13.0	12.8
Mole Creek caves	12.5	9.9
Cradle Mountain	11.3	22.1
Lake St Clair	19.8	16.5
Hobart Botanical Gardens	n.a.	22.2
Leven Canyon	n.a.	3.5
Maria Island National Park	n.a.	1.8
Bruny Island	n.a.	3.3
Far south-west (Port Davey area)	n.a.	1.7

(Source: Tasmanian Visitor Survey, Dept T, S & R).

In 1981 Cradle Mountain attracted 11.3 per cent of visitors, and has increased its popularity to the extent that it attracted 18.5 per cent (67 522) of visitors in 1988 and drew 22.1 per cent (81 189) in 1990. The accommodation capacity at Cradle Mountain Lodge was increased in 1988.

Among activities undertaken, sightseeing and touring, and visiting historic sites are still the most popular. Nearly 40 per cent of visitors were attracted to museums and art galleries, and day or half-day river cruises were undertaken by 33.7 per cent of visitors. Most visitors stay with friends and relatives and 25.5 per cent of visitors use hotels or motels with private facilities

12.6 HOLIDAY ACTIVITIES UNDERTAKEN IN TASMANIA (%)

Activity	1978	1986	1990
Visiting casinos	52.9	53.2	43.2
Bushwalking/climbing/rafting	27.2	31.1	20.7
Organised sport	6.5	4.7	5.3
Visiting historic sites	62.2	58.5	61.6
Sea fishing	7.4	4.7	5.0
Trout angling	5.0	3.6	3.7
Sightseeing and touring	68.7	60.8	67.9
Snow skiing	1.3	0.6	0.9
Canoeing or boating	5.5	5.0	3.9
Scenic flights	2.5	3.8	3.5
Day or half-day cruises	n.a.	33.9	33.7
Walking tour/4WD	n.a.	n.a.	2.6
Caverneering/visiting caves	n.a.	n.a.	15.2
Visiting museums/art galleries	n.a.	n.a.	39.9

(Source: Tasmanian Visitor Survey, Dept T, S & R).

for accommodation. The use of commercial holiday unit accommodation has increased significantly since 1981.

Accommodation at colonial and host farms continues to be used more by visitors and is most popular with those on self-drive tours.

In addition, caravan parks have increased the number of on-site cabins to cater for the demand for this type of accommodation. In 1981 there were 66 cabins in Tasmanian caravan parks. By December 1988 this number had nearly trebled

12.7 ACCOMMODATION USED BY VISITORS TO TASMANIA (%)

Accommodation	1978	1986	1990
Friends' or relatives' house	42.1	37.7	42.8
Hotel or motel			
with private facilities	27.8	28.4	25.5
Tent, hut, cabin, on-site caravan in camping area			
with amenities	6.5	6.2	5.1
Tent or hut in wilderness area or on other public land			
without amenities	2.2	2.5	2.0
Motorised camper	4.1	4.6	2.5
Commercial holiday unit	2.1	7.8	8.1
Towed caravan	1.2	1.4	1.5
School or residential college	2.4	2.1	1.4
Host farm/colonial	n.a.	1.4	2.8
Youth hostel	n.a.	n.a.	2.2
Other	9.3	8.0	5.9

(Source: Tasmanian Visitor Survey, Dept T, S & R).

to 176. During 1988 alone, the number of cabins rose 18 per cent from 149 to 176. This increase in capacity for all types of accommodation has contributed in part to the general decrease in occupancy rates in 1988.

However, occupancy rates for 1989 have already shown vast improvement. During the March quarter the rate for holiday units in-

flats and units, and caravan parks.

Room occupancy rates and room nights let for hotels and motels increased from 45.5 per cent and 780 630 respectively, in 1989, to 48.5 per cent and 871 628 in 1990.

Unit occupancy rates and unit nights let for commercial holiday units increased from 52.8 per cent and 154 385 respectively in 1989, to 56.8 per cent and 168 979 in 1990. The site occupancy rate for caravan parks increased by only 1.0 per cent from 1989 to 1990 although site nights let increased from 467 636 to 501 846. This was due to the increase in the number of sites available from 6043 to 6340 over the same period.

Major events that attracted large numbers of visitors to the State during 1990 were the World Rowing Championships at Lake Barrington, Australian Federation of Tourism Association conference in Hobart, and the Great Tasmanian Bike Ride.

12.8 ACCOMMODATION CAPACITY, TASMANIA

Accommodation establishment	At December		
	1981	1986	1990
Hotel rooms with private facilities	2 603	2 837	3 369
Motel rooms	1 488	1 494	1 626
Holiday units	n.a.	509	852
Caravan park sites, cabins	4 850	5 892	6 340

(Source: ABS Catalogue No. 8635.6).

creased by 19 per cent on the same period during 1988 while hotels, motels and guest houses, and caravan parks increased by six and 12 per cent respectively. The World Sheep and Wool Congress, which attracted 1500 visitors to Tasmania, added to the good season experienced by accommodation establishments.

In 1990 there was a strong recovery from the impact of the air pilots' dispute which occurred in the latter part of 1989.

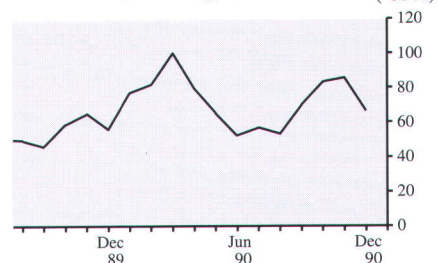
Data for tourist accommodation are collected by the quarterly ABS Tourist Accommodation Survey of hotels, motels, guest houses, holiday

12.9 ACCOMMODATION OCCUPANCY RATES, TASMANIA (%)

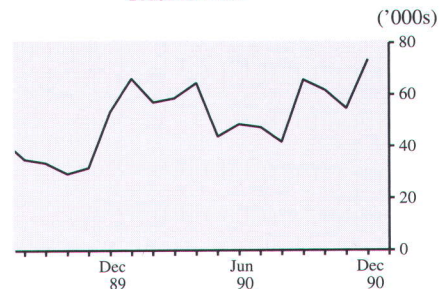
Year	Hotel, motel rooms	Holiday units	Caravan park sites
1984	50.3	58.0	22.3
1985	54.6	61.5	21.7
1986	52.6	56.3	22.1
1987	50.0	52.9	20.6
1988	46.5	51.9	20.2
1989	45.5	52.8	21.1
1990	48.5	56.8	22.1

(Source: ABS Catalogue No. 8635.6).

HOTEL, MOTEL, ETC. ACCOMMODATION, TASMANIA (Room nights)



PASSENGER ARRIVALS, TASMANIA



The National Trust

With increasing interest in our Colonial past, Tasmania has become the favoured State for many seeking to recapture the past, leaving the hectic present, by viewing a National Trust Home.

The National Trust of Australia (Tasmania), has classified 1907 buildings and recorded 1034 significant examples of our built heritage throughout Tasmania.

A survey of significant buildings follows, starting at the site of the successful second settlement in the new Colony.

Southern Tasmania:

Many old stone warehouses have been preserved in Salamanca Place. One of these recycled warehouses now houses the National Trust shop.

An artillery battery was stationed at Battery Point in the second decade after settlement: to house the guards of this military post, a plain, single-storey brick building (later a signal station) was erected. This structure, one of the oldest in Tasmania, pre-dates Secheron, a remarkable stone house, the first of a succession of notable buildings on a large scale soon to be found in most of the settled areas of Tasmania.

Parliament House, a broad two-storey sandstone structure designed by the Colonial architect John Lee Archer, presents on its main facade an impressive arcaded entry crowned with an expansive cornice and coat of arms. At the other end of the block stands the Lands Department building, a smaller, more decorative building.

Kelly's Steps, leading from Salamanca Place to Kelly Street, allow easy access to the residential part of Battery Point. By the mid-1850s, this had become a village for seafarers such as Captain James Kelly, a pioneering mariner, and those concerned with maritime matters.

Captain Haig, both seaman and merchant, occupied Narryna, a two-storey Georgian house of brick with a solid facade of stone, in which are set five large windows and the elegant main doorway. Narryna is open to the public.

Elsewhere in Hampden Road stand Ellerslie, an elegant mansion; Melrose, an imposing mid-century stone house of three storeys and, of the same period, the two-storied Lumeah, its entrance sheltered by an arcaded verandah.

By contrast, the modest cottages in Arthur's Circus were built for less affluent craftsmen and tradesmen.

Dominating the area because of its elevated position and tall four-level tower, St George's Anglican Church was designed by several architects. John Lee Archer was responsible for the main building, and James Blackburn for the tower; a half-century after its commencement in the mid-1830s, others decided to add a grandiose portico in the Classical Greek style with fluted columns and carvings.

One of Tasmania's earliest and most historic buildings stands on the corner of Brisbane and Campbell Streets. Construction of Trinity Church and gaol offices, designed by John Lee Archer, was undertaken in 1831. The complex, consisting of a two-storey section surmounted by a beautiful Renaissance tower, and single-storey wings, all of brick and stone, includes subterranean passages, solitary cells, day holding cells and an execution yard. This exceptional building is open daily for public inspection.

Runnymede, a Colonial single-storey stone house was built in about 1836 for Robert Pitcairn, the first lawyer to qualify in the Colony. It was named Cairn Lodge until the Right Reverend Francis Russell Nixon bought the property in 1850, re-naming it Bishopstowe.

Captain Charles Bayley, having acquired Bishopstowe in 1864, promptly re-named it Runnymede after a favoured ship. Until 1967 Runnymede remained with the Captain's descendants, after which it was leased to the National Trust.

Oatlands retains important structures from the days when it served as a military post. The simple Georgian stone building on the Esplanade is the oldest, dating from the 1820s. The Callington Mill complex, active from 1836, operated both a windmill and a steam-powered mill. It has been restored by the National Trust.

Northern Tasmania:

The Old Umbrella Shop in Launceston, built in the 1860s entirely of Tasmanian Blackwood, is the last authentic period shop in Tasmania. Having been run since the turn of the century by three generations of the Shott family, the shop now serves as a National Trust gift shop and information centre.

Franklin House, off the Midland Highway, was constructed in 1838, during the Georgian era, for Mr Britton Jones, a pioneer brewer and inn-keeper of Launceston. The stuccoed brick house, of two storeys, is given its grand character by its imposing entrance portico, entablature and cornice.

Entally House at Hadspen, is a single-storey brick house with shingled roof and a two-storey addition with verandah continued from the main building, all set in magnificent grounds and gardens.

Entally was built for Thomas Haydock Reibey around 1819. Still surviving are Regency furnishings and a collection of fine silverware. Outbuildings include a greenhouse, a stone chapel with shingled roof, a two-storey brick coach-house, stone stables, a cottage, brick lodge, and enclosed garden.

Westbury has a fine example of a Georgian corner shop and residence, the White House. This single-storey brick-on-stone structure was built in about 1841 for Thomas White.

Outbuildings, consisting of a brick wing and a stone barn, contain a display of early cycles and vehicles, a large collection of dolls and toys, and a fully-equipped bakery.

Clarendon, near Nile, is one of the great Georgian houses of Australia. It was built for James Cox, a wealthy land-owner, wool-grower, merchant and Member of the Legislative Council.

On its completion in 1838, the stuccoed-stone building of two storeys was recognised as the most splendid house in the Colony. The facade is dominated by a huge portico with Ionic columns. Two brick wings projecting at the rear partially enclose walled gardens, beyond which outbuildings lie.

Given to the National Trust in 1962, the first stage of Clarendon's restoration was

completed in 1966. In 1974, a portico and parapet in the style of the original structure were added, returning the exterior of the house to its original grandeur.

North-West:

Burnie Inn, Burnie, built in 1847 on another site, is a typical single-storey timber dwelling with shingle roofs for both house and verandah.

Home Hill in Devonport, a single-storey timber dwelling erected on a bluestone foundation, is famed for its original occupants. This was the home of the Honourable Joseph Lyons (Tasmania's only Prime Minister) and Dame Enid Lyons during most of their lives after their marriage in 1915.

Home Hill stands as Dame Enid left it, containing many historic items. The City of Devonport, owner of both house and grounds, and the National Trust, which owns the contents, make Home Hill available to the public.

Mount Pleasant, East Devonport, is remarkable for its unmodified state and elevated site as well as its architectural value as a Georgian-period timber dwelling with characteristics of the Indian bungalow. Its Georgian heritage is evident on seeing the large 12-pane windows disposed either side of the door, while the timber verandah is more appropriate to a hotter climate.



Clarendon.

Photo: National Trust of Australia (Tasmania)

Intrastate Travel Survey

In 1990 the Department of Tourism, Sport and Recreation established the Intrastate Travel Survey. Results from the survey indicate that the Tasmanians spent more than \$300 million on leisure or business travel.

During the first six months of 1990, Tasmanians outlaid almost \$200 million on travel expenditure, falling away to \$114 million in the second half of the year. This was due to the majority of holiday breaks occurring in the first part of the year.

Average trip duration throughout the year was 2.6 nights, expenditure was \$121 per trip and \$46 per night. The breakdown of intrastate travel, according to the survey of approximately 2000 Tasmanians, is holiday or pleasure, 51 per cent; a visit to friends and relatives, 31.6 per cent; business, 14 per cent; and sport, 3.4 per cent.

(Source: Dept. of Tourism, Sport and Recreation).

12.2 TASMANIAN WILDERNESS HOLIDAYS

Tasmania has more of its area than any other Australian State vested in National Parks, more than 9000 square kilometres of its total 68 000 square kilometres. Three National Parks, the Southwest National Park, the Franklin Lower Gordon Wild Rivers National Park and Cradle Mountain-Lake St Clair together are listed on the register of World Heritage. It is here and in the other alpine and wilderness areas that hardy bushwalkers, climbers, rafters and amateur back-packers are able to find a wilderness holiday to suit their requirements as well as their ability.

Tasmania has 14 National Parks roughly grouped into coastal, alpine and wilderness. The coastal parks are more popular, offering, in most instances, easy access and a greater variety of facilities.

Asbestos Range National Park on the north coast comprises beaches, coastal hills, a small lagoon, small off-shore islands and heathland and is close to popular holiday resorts. It offers outdoor activities such as, camping, swimming, boating, water-skiing, fishing, bird watching and walking. Camping areas are provided at Bakers Beach and Badger Head while accommodation and visitor facilities are provided at the nearby towns of Port Sorell and Beauty Point.

Freycinet National Park, mid-way on the East Coast is a striking combination of red granite mountains, white sand and crystal clear water. The beaches, boating, fishing, swimming and bushwalking attract many visitors to the area, particularly during the summer. The park has a series of well-defined walks, most of them within the capability of the average visitor. Coles Bay and the nearby towns of Bicheno and Swansea offer accommodation and visitor facilities.

The Ben Lomond National Park, 50 kilometres south-east of Launceston and one of Tasmania's two principal ski-fields, is a large alpine plateau with the highest peak, Legges Tor, rising to 1573 metres. Facilities include an alpine village, the Ben Lomond Creek Inn, which offers a tavern, accommodation and ski village with ski tows and a public shelter.

Cradle Mountain-Lake St Clair National Park in the western Central Highlands is Tasmania's best known national park and is famous for the beauty of its mountains and lakes and for the 85 kilometre walking track from Cradle Valley to Lake St Clair. The park contains numerous highland tarns and lakes, streams and waterfalls and mountain peaks, including Tasmania's highest mountain, Mount Ossa (1617 metres). The overland walk is normally made in four or more daily stages, sheltering overnight at one of the 12 basic, unattended huts along the way. Walkers are urged to register with rangers. For those wishing to combine wilderness with comfort the Cradle Mountain Lodge provides chalet-style and self-contained cabin accommodation, a restaurant and tavern with food and petrol sales.

The Franklin-Lower Gordon Wild Rivers National Park includes the Franklin River, the broad lower reaches of the Gordon, Frenchman's Cap, rainforest and unsurpassed temperate wilderness. The Franklin attracts the hardiest and most experienced, and has a reputa-



Southwest National Park.

Photo: Department of Parks, Wildlife and Heritage

tion for providing some of the world's best whitewater rafting. In contrast, the Lower Gordon river can be seen from the comfort of cruise boats which leave from the West Coast port of Strahan.

The Southwest National Park is Tasmania's largest national park and attracts experienced bushwalkers and climbers from around the world. The park encompasses the majority of Tasmania's temperate wilderness, an area of rugged mountains, dense rainforest, button grass plains, swift flowing rivers and isolated coastline. Although road access to the Southwest is limited, excellent views of the surrounding wilderness area can be seen from the road. Sight-

seeing can also be undertaken by light aircraft. Strathgordon, the only town within the Park, has accommodation and visitor facilities, including boat ramps on the shores of Lake Pedder, noted for its trout fishing.

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Australian Tourism Awards

The Low Head Pilot Station and Museum won the heritage and cultural tourism category of the Australian Tourism Awards.

The station, older than Port Arthur, is operated by the Port of Launceston Authority. It has operated continuously since 1805 and most of its buildings date back to as early as 1835.

Other Tasmanian winners were Cradle Mt Lodge, which won an award of distinction for tourism development, and St Helens Caravan Park and Evandale Village Fair, both of which received special commendations.

Chapter 13

AGRICULTURE

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Chapter 13

AGRICULTURE

Wool, fat lambs, beef, dairying and vegetable growing continue as the mainstay of the State's agricultural production. However, in recent years Tasmanian farmers have diversified into less traditional crops and activities. These include buckwheat, peppermint, fennel and pyrethrum as well as wine production and deer farming. The gross value of Tasmania's agricultural production was estimated at almost \$630 million in 1989-90. Vegetable cropping contributed almost 20 per cent, or \$120 million. Tasmania's wool producers, in spite of the downturn in the industry, contributed over a quarter (\$162 million) of the gross value of rural production.

13.1 FINANCES OF FARM BUSINESSES

Tasmanian farm businesses had a turnover of \$559 million in 1989-90 according to the results of the annual Agricultural Finance Survey.

The largest component of turnover was from livestock products, mostly from sales of wool and milk. The main components of sales of livestock were sheep and cattle, while the main components of sales of crops were vegetables and fruit.

In total, farmers were shown to have other large sources of income which amounted to \$46 million. The main categories were interest, agricultural services and agistment, hire, rent and leasing of plant and equipment, subsidies and royalties.

Despite the beginning of the rural recession, turnover was up nine per cent on 1988-89. In Australia, the commodities most affected were

13.1 SELECTED FINANCIAL STATISTICS, TASMANIA (\$m)

	1988-89	1989-90
Turnover-		
Sales from crops	119.1	132.6
Sales from livestock	124.9	115.6
Sales from livestock products	226.6	265.0
Other income	42.1	45.9
Total	512.7	559.1
Purchases and selected expenses	265.6	288.7
Value added	283.2	292.7
Gross operating surplus	197.4	198.8
Interest paid	39.4	59.3
Cash operating surplus	127.4	129.0
Total net capital expenditure	40.6	64.9
Gross indebtedness	291.1	398.9

(Source: ABS Catalogue Nos. 7507.0, 7508.0 and 7509.0).

wool and wheat. While little wheat is grown in Tasmania, wool is a major product.

Following reduced world wide demand and increased production, the market indicator price

of wool plummeted from over 1000 cents per kilogram clean to below 400. Under the Reserve Price Scheme, the Australian Wool Corporation bought all low priced wool. This led to a burgeoning debt that the Australian Wool Corporation was finding difficult to service.

In February 1991, the Federal Government abolished the Reserve Price Scheme and replaced it with a free market. Initially wool prices remained low, but slowly prices recovered to 570 cents per kilogram clean by June 1991. The drop in prices is expected to be reflected in figures to be released for 1990-91.

Superfine grade wool is a more important component of wool production in Tasmania than in most other areas of Australia. Fortunately, this grade of wool was less affected by the fall in price, and the recovery was stronger.

Although there was a nine per cent increase in turnover between 1988-89 and 1989-90, the cash operating surplus, a measure of profitability, increased by only 1.3 per cent. Value added rose by three per cent.

Gross indebtedness increased by 37 per cent. Total interest paid increased 51 per cent. This reflected not only the increased indebtedness but also the higher interest rates charged by financial institutions.

13.2 AGRICULTURAL LAND USE, TASMANIA ('000 ha)

Area	1988-89	1989-90
Crops -		
Cereals for -		
Grain	19.7	17.3
Other purposes	13.9	13.3
Legumes	1.7	1.1
Fruit	3.1	3.2
Vegetables	17.0	18.3
Other	26.3	29.3
Total crops	81.7	82.5
Sown pasture	852.9	856.1
Total area of agricultural establishments (a)	1 883.5	1 933.4

(a) Includes area used for rough grazing, forestry or not utilised for any specific purpose.

(Source: ABS Catalogue No. 7114.6).

13.2 LAND USE

There were 3699 establishments involved in commercial agricultural activities in Tasmania in 1989-90. There were a further 1500 sub-commercial establishments involved in limited agricultural activities in 1989-90.

Commercial agricultural establishments occupied 29 per cent of Tasmania's area. Just under 50 per cent of the area of commercial agricultural establishments was under sown pasture or used for crops (cereals, fruit, vegetables, etc). The balance (around 990 000 hectares) was semi-cleared land, bush or fallow; and used for rough grazing, forestry or not utilised at all.

An important agricultural activity is livestock grazing. 78 per cent of establishments carried cattle (milk or meat) and 55 per cent grazed sheep. This combination of meat cattle and sheep grazing is popular in Tasmania; about 25

13.3 AGRICULTURAL ESTABLISHMENTS ACCORDING TO PRINCIPAL AGRICULTURAL ACTIVITIES, TASMANIA, 1989-90

Agricultural activity	Establishments (Number)	Proportion of all holdings (%)
Establishments growing -		
Cereals for grain -		
Wheat	64	1.7
Barley	409	11.1
Vegetables for human consumption -		
Beans, French and runner for processing	174	4.7
Carrots	58	1.6
Onions	174	4.7
Peas for processing	464	12.5
Potatoes	629	17.0
Any vegetables for human consumption	903	24.4
Orchard fruit -		
Apples	199	5.4
Establishments carrying -		
Milk cattle	961	26.0
Meat cattle	2 661	72.0
Pigs	176	4.8
Sheep	2 045	55.3

per cent of establishments combine these two activities.

In 1989-90 just over 25 per cent of agricultural establishments carried dairy cattle. However this is a considerable fall from 20 years earlier when around 40 per cent of agricultural establishments carried cattle for milk.

13.3 CROPS

The principal cropping activity on Tasmanian farms is the growing of vegetables for human consumption. This is the major cropping activity in terms of both farm area used and value of products.

Most of the vegetable cropping is done along the North-West coastal strip. The area is characterised by deep friable krasnozem soil types and relatively high (900 mm to 1400 mm) and reliable rainfall. The other main vegetable growing area is in the north-east around Scottsdale. Soil and climate conditions are similar to the North-West coastal belt.

13.4 AREA OF PRINCIPAL CROPS, TASMANIA (ha)

Crops	1988-89	1989-90
Cereals for grain -		
Barley	7 820	7 983
Oats	10 233	7 568
Wheat	771	792
Vegetables for human consumption -		
Beans, French and runner for processing	1 248	1 454
Onions	1 098	1 246
Peas (green) for processing	6 320	6 527
Potatoes	6 001	6 852
Total vegetables (a)	16 998	18 345
Orchard fruit -		
Apples	2 654	2 672
Total orchard fruit (a)	2 849	2 876
Hops	809	765
Cereal crops for green feed or silage	10 943	11 895

(a) Includes components not specified separately.

(Source: ABS Catalogue No. 7114.6).

Most of the vegetable cropping in Tasmania is used for processing. Farmers grow crops such as beans, peas and potatoes under contract to processing companies. Some of the crops are exported interstate and some are sold on the local fresh market. A local Tasmanian company has developed an expanding European export market for onions. This is the reason for the marked increase in area planted to this crop over recent years. In the early 1980s around 550 hectares were planted. By the end of the 1980s the area had almost doubled to around 1000 hectares.

13.5 GROSS VALUE OF CROPS, TASMANIA (a) (\$m)

Crops	1988-89	1989-90
Cereals for grain	8.4	7.3
Legumes mainly for grain	0.7	0.5
Crops for hay	1.8	0.5
Orchard fruit	31.4	32.6
Berry and small fruit	2.2	1.2
Grapes	0.8	1.0
Vegetables for human consumption	111.9	120.0
Other crops	33.7	32.5
Pasture harvested	32.0	26.4
Total	222.9	221.9

(a) Excludes crops and pasture harvested for hay, green feed or silage.

(Source: ABS Catalogue No. 7114.6).

In both value and area, potatoes are one of the principal crops grown by Tasmanian farmers. The area planted to potatoes was over 6000 hectares in both 1988-89 and 1989-90. Potatoes are the highest value of all crops — in 1989-90 the value of the potato crop was \$60.2 million. This was some \$29 million above the value of the apple crop.

A traditional Tasmanian crop is hops. They used to be grown in numerous small plots throughout the Derwent Valley. However, with the introduction of new high yielding varieties and mechanical harvesting in place of hand picking, hop growing has undergone substantial change. Hops are now grown in larger lots suited to mechanical harvesting. Significant areas in the north-east and north-west have been planted to the crop as well. These changes have maintained Tasmania's position as the

main grower State; around two thirds of the Australian total area is grown in Tasmania.

A characteristic of the vegetable growing industry is the dominance of large producers. This is partly attributable to the high capital cost of equipment needed in the industry. In 1989-90, there were 372 establishments growing less than 10 hectares of vegetables. As a group they represented more than 40 per cent of vegetable producers, yet they produced less than 10 per cent of the total area of vegetables reported.

Conversely, the largest five per cent of the State's vegetable growers, that is those cultivating 60 hectares or more, produced a little over a quarter of Tasmania's vegetable crops.

13.3.1 Potatoes

Tasmania produces about 25 per cent of the Australian potato crop. Most are grown under contract to vegetable processors and are turned into potato chips. In recent years, the potato crop has been the most valuable single agricultural crop produced by Tasmanian farmers, accounting for eight to 10 per cent of the total gross value of all agricultural production.

Most of the potato crop is grown along the North-West coastal strip stretching from the municipality of Latrobe to Circular Head. Like many other agricultural activities, potato growing is dominated by large producers. Those growing 20 hectares or more (15 per cent of growers) accounted for more than 40 per cent of the area of potatoes grown.



Photo: School of Agriculture and Horticulture

13.3.2 Apple Industry

Tasmania is still referred to by many as the Apple Isle. This was once an accurate reflection of the importance of apple orcharding to the State's economy and agricultural industry. Apples contributed around 15 per cent to the total gross value of agricultural production and were one of the State's major overseas exports.

Apple orcharding was based on overseas exports to Europe, in particular the United Kingdom. About 75 per cent of the crop went overseas, nearly all to European countries. Apples are still important to the Tasmanian agricultural industry. They remain one of the two most significant crops in value terms and account for around five per cent of the gross value of all agriculture.

13.6 POTATOES, TASMANIA

Year	Area (hectares)	Production ('000 tonnes)
1985-86	4 777	193
1986-87	5 744	223
1987-88	6 380	248
1988-89	6 001	257
1989-90	6 852	297

(Source: ABS Catalogue No. 7114.6).

13.7 APPLES, TASMANIA

Year	Number of trees ('000)	Production ('000 tonnes)
1985-86	1 256	57.0
1986-87	1 218	48.1
1987-88	1 251	52.9
1988-89	1 267	52.6
1989-90	1 340	57.3

(Source: ABS Catalogue No. 7114.6).

THE VEGETABLE INDUSTRY OF TASMANIA

The growing of vegetables has been a major activity in Tasmanian agriculture over many decades. This factor is well recorded, in the early days of the colony it was stated that '...in the year 1817...about three hundred and eighty tons of potatoes were on the above occasion shipped to Port Jackson. And here it may be remarked, in evidence of the superiority of the soil, for the growth of this valuable root...that, while the potatoes grown in the vicinity of Port Jackson are of a very moderate size, waxy, and incapable of being kept more than a few weeks, those of Van Diemen's Land, on the contrary, are always produced in the most profuse quantities, are as large as a full sized Swedish turnip, mealy, of a very delicious taste, and will keep from season to season.' (Evans, G.W., *A Geographical, Historical, and Topographical Description of Van Diemen's Land*, 1822.)

For the next hundred years or so, until the 1940s, Tasmanian vegetable production was virtually confined to the production of a range of vegetables for the local market; and potatoes, carrots, parsnips and swedes for interstate exports.

The establishment of processing facilities in Tasmania during World War II, with dehydration plants at Smithton, Ulverstone, Scottsdale and Devonport and a canning plant also at Devonport, provided further impetus to the diversified industry that now operates in this State. Postwar developments in the Tasmanian vegetable industry were slow until the commercial development of quick freezing techniques in the 1950s.

Rapid progress has taken place in the industry since then under the influence of a burgeoning processing sector which encompasses freezing, canning and a limited amount of dehydration. In recent years, vegetable crops have occupied about 18 000 hectares per annum. In July 1991, the value of these crops was about \$120 million, which was almost half of the gross value of all crops grown in Tasmania.

The climate of Tasmania is well suited to vegetable crops, but the prime advantage of the State lies in the quality of the soil used for vegetable production. The red basaltic

(krasnozem) soils of the north-west and north-east of the State have a desirable, free-draining, water-stable structure. A wide range of vegetables are produced in the State with potatoes being the most valuable.

Vegetable production declined in the 1990-91 season, mainly because of lower processing requirements for crops such as potatoes, peas, beans and carrots.

This was the result of several factors: a relatively static per capita consumption of a range of commodities nationally, an abundance of fresh produce and increasing quantities of imported produce.

It is anticipated that production of vegetables in Tasmania may further decline in 1991-92, and probably even into 1992-93, but then an upward trend is envisaged with further strong growth continuing into the late 1990s.

The vegetable industry today comprises three basic production and marketing segments: processing, the local fresh market and fresh exports. Large proportions of the major vegetable crops are grown specifically for the processing industry.

More than two thirds of the State's potatoes and almost all of the green peas and green beans are processed. Tasmania supplies a very high proportion of the Australian requirement for processed peas and beans. Other major crops include brussels sprouts, cauliflowers, carrots and sweet corn.

The local market for fresh vegetable produce is small and appears to be declining. In spite of the absence of central markets, Tasmania has a number of well organised specialist fresh vegetable growers and wholesalers who provide an important contribution to the State's vegetable industry and economy. Onions, potatoes and swedes are marketed interstate; and onions, carrots, squash, potatoes, swedes and musk melons are exported overseas. There is a need to seek long term export markets rather than the opportunity markets so often served in the past.

(Article contributed by Department of Primary Industry, Tasmania.)

About 20 per cent of the crop is exported overseas now, of which over 50 per cent is exported to Asian markets.

13.3.3 Wine Grapes

Tasmania has become a wine producer of genuine world standing. Although the wine industry is small it has developed an enviable reputation for producing premium quality wines.

This reputation is protected by the Tasmanian Appellation of Origin Scheme. This wine certification system legislates to prevent wine producers calling a wine Tasmanian unless the wine has been produced from grapes grown in the State.

13.8 AREA OF VINEYARDS AND GRAPE PRODUCTION

Variety	1988-89	1989-90
Red grapes -		
Bearing (ha)	32	55
Non-bearing (ha)	22	46
Total (ha)	54	101
Production (t)	200	323
White grapes -		
Bearing (ha)	30	51
Non-bearing (ha)	20	33
Total (ha)	50	84
Production (t)	140	370

(Source: ABS Catalogue No. 7114.6).

13.4 LIVESTOCK AND LIVESTOCK PRODUCTS

Cattle and sheep are the mainstay of Tasmanian agriculture. Sales of livestock and livestock products account for 65 to 70 per cent of the gross value of Tasmanian agriculture.

13.4.1 Sheep

Despite the diversity of Tasmanian agriculture, sheep are the biggest single contributor to the value of Tasmanian agricultural production.

13.9 LIVE SHEEP EXPORTS FROM TASMANIA TO THE MIDDLE EAST

Year	No. of sheep ('000)	Value (\$m)
1984-85	143.0	3.06
1985-86	255.4	5.41
1986-87	299.3	6.65
1987-88	201.5	4.95
1988-89	273.3	6.86
1989-90	—	—

Together, wool and sales of sheep (for slaughtering and export) contribute around 25 per cent of the gross value of Tasmanian agricultural output. Until recently, this proportion has been higher due to the buoyant wool prices experienced.

Live Sheep Exports

In mid-1989, the live sheep export was seriously threatened by Saudi Arabia when a number of shipments from Australia were banned on the grounds that the sheep were diseased. The diseases that the Saudi Arabian inspection claimed to have detected do not occur in Australia. The shipments refused entry to Saudi Arabia were directed to other Arab gulf states. Due to possible effects on exports of live sheep to other countries, Australia suspended exports to Saudi Arabia in September 1989 pending further discussions with Saudi authorities.

13.10 FLOCK COMPOSITION, TASMANIA (At 31 March)

Type of sheep	1990	
	('000)	(%)
Rams	50.3	0.9
Breeding ewes	2 101.4	39.4
Other ewes	247.1	4.6
Wethers	1 484.0	27.8
Lambs and hoggets	1 453.9	27.2
Total	5 336.8	100.0

(Source: ABS Catalogue No. 7114.6).

WOOL FLOOR-PRICE SCHEME

The wool floor-price scheme, introduced about 17 years ago, was ended in 1991.

The reserve floor-price was put in place with the objective of bringing stability to wool prices. It set a guaranteed minimum price for wool sold. In 1987 the *Wool Marketing Act* gave the Australian Wool Corporation (AWC) permission to set its own floor price. In 1988 a floor price of 870 cents per kilogram was set for wool. At this price, most of the wool being offered at auction was being bought by the AWC.

The high floor-price for wool, combined with market disruption caused by international events, led to buyers staying out of the market. The AWC was then forced to buy an increasing proportion of the wool offered at auction. In December 1989 the AWC had a stockpile of 1.7 million bales of wool. Its borrowing ceiling was set at \$1.5 billion.

By early 1991 the stockpile had grown to a massive 4.7 million bales (about 825 million kilograms). By comparison, the annual national wool clip received by brokers in 1989-90 was 1050 million kilograms and in 1988-89, 889 million kilograms. The AWC debt needed to finance the buying and storage had reached \$2.8 billion by the end of 1990.

During 1990 the floor-price scheme came under increasing scrutiny. The wool floor-price was dropped, coming back to 700 cents per kilogram in May 1990. However, the AWC continued to buy around 70 per cent of the wool offered at auction.

In February 1990 the Wool Council voted to implement a 15 per cent grower levy on producers. This was to help finance the AWC's buying activities and increasing debt. In May 1990 legislation was introduced to increase this rate to 20 per cent, and in October it went up to 25 per cent. However, both the stockpile and debt continued to grow. In February 1990 the AWC borrowing limit was raised to \$2.6 billion. By the end of the year the debt had reached \$2.8 billion. The cost of storing the massive stockpile was about \$50 million annually, and the AWC was faced with an annual interest bill of \$280 million.

The situation finally led to government intervention. Wool sales were suspended on 29 January 1991 with the wool floor-price scheme being abandoned in February. The first wool sales under a free market system took place in Melbourne and Sydney on 25 February. These were the first auctions without a floor price for about 17 years. In the final week of February the market indicator closed at 428 cents per kilogram clean for sales. This was a drop of 278 cents per kilogram from the final market indicator price under the reserve price scheme.

The initial buyer reaction to the free market system of wool selling was one of caution. However, after February the market stabilised, buyers re-entered and pass-in rates dropped. Demand from Japanese and European buyers was good. In April the market indicator reached 591 cents per kilogram clean. This led to the release of wool from the AWC stockpile. At the end of May the market indicator was 574 cents.



Photo: Department of Primary Industry

13.1 1 SHORN WOOL PRODUCTION AND VALUE OF ALL WOOL, TASMANIA

Year	Shorn wool (tonnes)	Value (a) (\$m)
1984-85	20 295	73.3
1985-86 (a)	20 427	83.7
1986-87	20 449	108.7
1987-88	19 317	162.4
1988-89	18 738	154.7
1989-90	21 408	161.9

(a) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more; earlier years agricultural establishments with estimated value of agricultural operations of \$5000 or more.

(Source: ABS Catalogue Nos 7114.6, 7501.6).

Composition of the Sheep Flock

The structure of Tasmania's sheep flock has been fairly stable over the past two decades. The main change has been in the proportion of wethers, kept for wool production, which dropped from around 25 per cent in the 1970s to about 20 per cent in the early 1980s. It has since climbed back up to around the 25 per cent level. The recovery in the proportion of wethers is a reflection of buoyant wool prices experienced throughout the 1980s.

Wool

Tasmania has gained a reputation in the international wool market as a producer of top quality fine merino fleeces. Tasmanian producers have regularly held the record price for fine merino wool sold at auction. However, in terms of the overall fleece sold, the proportion of Tasma-

nian wool falling into the very fine category (20 microns or finer) is below the national level. This is a reflection of the different breed structure of the Tasmanian flock. A smaller proportion is merino than for the national flock.

The average price of wool sold at Tasmanian auctions in 1989-90, while still more than double the level a decade earlier, nevertheless showed a marked decline. Overproduction, declining demand and the high value of the Australian dollar forced international buyers out of the market. The Australian Wool Corporation was compelled to intervene to support the reserve price of 700 cents a kilogram. After the AWC stockpile had risen to 4.7 million bales, the reserve price scheme, which had operated for 17 years, was finally suspended.

Sheep and Lambs Slaughtered

While wool is the most valuable product from the sheep industry, sheep and lambs slaughtered for meat also contribute substantially to the estimated value of agricultural production. Between \$13 million and \$20 million is added annually to the value of agriculture from slaughtering. A considerable part of the meat produced is exported overseas. In recent years about 1.1 million to 1.3 million sheep have been slaughtered, providing between 19 000 and 22 000 tonnes of meat annually.

13.13 SHEEP AND LAMBS SLAUGHTERED, TASMANIA ('000)

Year ended 30 June	Sheep	Lambs
1986	466.6	665.7
1987	509.7	670.6
1988	630.0	656.0
1989	412.4	595.0
1990	532.3	588.8

(Source: ABS Catalogue No. 7114.6).

13.12 SHEEP NUMBERS AND WOOL PRODUCTION, TASMANIA

Year	Sheep numbers ('000) (a)	Shorn wool production (tonnes)
1985-86 (b)	4 822.5	20 427
1986-87	4 954.0	20 449
1987-88	4 746.4	19 317
1988-89	4 933.0	18 738
1989-90	5 336.8	21 408

(a) At 31 March. (b) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more.

(Source: ABS Catalogue No. 7114.6).

13.4.2 Cattle

One of the most common agricultural activities is grazing cattle for meat. This activity is frequently undertaken as an adjunct to other major activities such as sheep farming, dairying or cropping. About 70 to 75 per cent of agricultural establishments carry some cattle for meat production. Meat production as a sideline activity is illustrated by the fact that almost 50 per cent of

13.14 CATTLE AND CALVES SLAUGHTERED, TASMANIA (^{'000})

<i>Year ended 30 June</i>	<i>Cattle</i>	<i>Calves</i>
1986	143.2	32.2
1987	172.8	32.2
1988	181.9	35.6
1989	161.1	40.5
1990	191.7	34.9

(Source: ABS Catalogue No. 7114.6).

establishments with meat cattle carry under 10 per cent of the meat cattle herd. The top five per cent of agricultural establishments with meat cattle (those with more than 500 head) account for almost 40 per cent of meat cattle.

Dairying remains an important part of agricultural activity in Tasmania. Dairy products contribute approximately 15 per cent of the total value of agricultural production. However, over the past two to three decades the dairy industry has undergone major change.

The number of milk cattle has fallen by over 50 per cent while the number of establishments involved in the dairy industry has fallen by more than 80 per cent. While some of this decrease is due to a change in classification, most is due to a real fall in establishments in dairying.

13.15 CATTLE NUMBERS, TASMANIA (^{'000})

<i>At 31 March</i>	<i>Cattle for meat</i>	<i>Cattle for milk</i>
1986 (a)	368.6	139.9
1987	395.3	138.9
1988	407.7	134.0
1989	425.6	134.4
1990	432.8	135.8

(a) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more.

(Source: ABS Catalogue No. 7114.6).

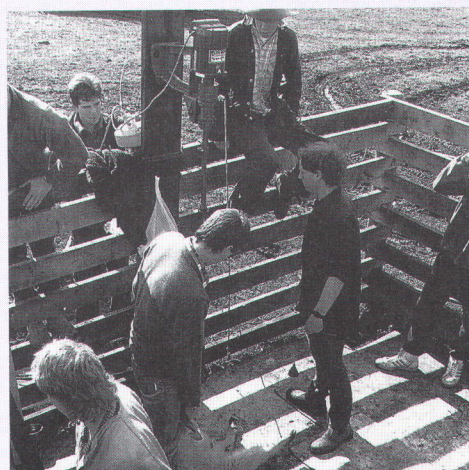
THE SCHOOL OF AGRICULTURE AND HORTICULTURE

Farming and horticultural apprenticeships are available at the North West Regional College of TAFE's Burnie Campus to service the whole of Tasmania: providing training for farm managers, field officers, tradespeople, greenkeepers, landscapers, gardeners and nursery people. In 1990 there were 282 student enrolments. The courses offered range from apprenticeships and traineeships, mainstream and short courses, to labour market and specialised courses.

The School of Agriculture and Horticulture is based in an ideal location, with a diversity of agriculture and horticulture in the region, and the proximity of three research stations run by the Department of Agriculture. A 112 hectare commercial farm and the College grounds provide an invaluable base for training.

Apprenticeships are available in dairying, grazing, cropping, fruit growing, nursery practice, gardening, greenkeeping and landscape gardening. There is a strong emphasis on relating classroom to industry, practical training averages 50 per cent for each course.

Traineeships are available in dairying, vegetable growing, cereal production, silviculture and fruit growing. Mainstream courses are offered for Horticulture and Dairy Farm Management Certificates, Horticulture Technology and Associate Diplomas in Horticulture and Agriculture.



(Article and photograph contributed by the School of Agriculture and Horticulture.)

A contraction of the United Kingdom export market was the initial catalyst for the fall. Further pressure came from increasing production costs relative to returns and the need for large scale production to remain viable.

Over the past two decades the median size of the milk cattle herd has increased from 40 to over 120. Most of the dairy herd is located in the north-west of the State. The local government area of Circular Head has just on 30 per cent of the State's dairy cattle.

13.4.3 Other Livestock

Other principal livestock farming activities include pig farming, poultry and, on a few establishments, goats and deer. Pig farming has undergone similar changes to other farming activities with increasingly specialised and large scale operations.

13.16 PIGS, TASMANIA (^{'000})

Year	Number (a)	Slaughtered (b)
1985-86 (c)	42.1	84.4
1986-87	46.1	89.6
1987-88	47.6	97.5
1988-89	44.9	95.5
1989-90	42.2	86.7

(a) Number reported on establishments in scope of the agricultural census. (b) All pigs slaughtered at abattoirs. (c) Relates to agricultural establishments with estimated value of agricultural operations of \$20 000 or more; earlier years agricultural establishments of \$2500.

(Source: ABS Catalogue No. 7114.6).

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MINING

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Chapter 14

MINING

Commercial mining in Tasmania can be dated to 1834, although when coal was discovered at Mount Communication on the Tasman Peninsula, there had already been fourteen other coal discoveries in the State.

The French naturalist Labillardiere reported finding coal in the cliffs at South Cape Bay in 1793 and in 1803 James Meehan, on an exploratory expedition from Risdon Cove, discovered coal in a bank beside the Coal River downstream from the site of Richmond.

In 1804, the Reverend Knopwood is recorded as having collected coal from near the Coal River. Surface picking of brown coal was also undertaken at Macquarie Harbour on the West Coast in the 1820s.

Coal deposits were discovered in the Hobart suburb of New Town in May 1827, although commercial sales of this coal did not begin until 1851.

Tasmania's first commercial coal mining took place at the Government-run Saltwater River mines near Mount Communication in 1834 using convict labour; 61 tonnes of coal were produced by the Port Arthur convicts. The mine operated for 10 years before better quality coal was discovered elsewhere. The mine closed in 1877.

The first discovery of gold was near Lefroy in 1849. Three years later, a further discovery was made at Mangana near Fingal.

Tin oxide was first discovered near Mount Bischoff in 1871, silver-lead ore in the Zeehan-Dundas area in 1882. The discovery of the Iron

Blow ore outcrop in 1883 led to the opening of the Mount Lyell copper field. These, and later discoveries, led to the establishment of Tasmania's West Coast mining industry which has had a significant impact on the State's development and economy.

Iron ore deposits at Savage River have been known about since the 1870s and their commercial potential was first investigated by mining companies in the 1950s and 60s. The magnetite ore was considered to be of too low a grade and too difficult to concentrate to be worth mining commercially.

After a two-year exploration and feasibility study, Pickands Mather and Company announced in 1965 that the iron ore deposits would be developed by a joint venture of Japanese, American and Australian companies. At the time, it was the biggest and most costly industrial project undertaken in Tasmania. Costing \$80 million, it included a township, concentrating mill, 83-kilometre-long ore slurry pipeline to Port Latta, pelletising plant and offshore loader.

Production began in 1967 and since then, Savage River Mines has open-cut mined 286 million tonnes of material to produce 101 million tonnes of ore and 47 million tonnes of high-grade pellets.

14.1 MINERAL PRODUCTION

The Mining Census conducted for 1988-89 included only producers of metallic minerals and coal; previous censuses had included construction materials and other non-metallic minerals. In 1988-89, turnover for the metallic minerals and coal sectors of the industry was \$502.6 million, 20 per cent more than in 1987-88. Employment in these sectors at the end of June 1989 was 2500, a marginal increase on the figure of 2496 recorded the previous year. Wages and salaries paid were five per cent more than in 1987-88.

14.1.1 Metallic minerals

Mount Lyell

Development of the Mount Lyell Mining and Railway Company Ltd mine at Queenstown continued in 1988-89 with the opening of the new Prince Lyell 50 series of stopes. Work was started on a crusher station and on the overland conveyor between the Prince Lyell shaft and the mill. Mine production was 1.64 million tonnes of ore, with 1.63 million tonnes being processed at a grade of 1.24 per cent copper.

In 1989-90 production of ore fell to 1.3 million tonnes at a grade of 1.28 per cent copper. A delay in the opening of the 50 series stopes contributed to the drop in production. Work began on the 60 series decline. In the last quarter of 1989-90 the mine workforce was reduced by about 15 per cent and workforce restructuring was undertaken.

The Mount Lyell mine has operated for over 100 years and while there is still an ore reserve, most of it is well below the surface and difficult and expensive to mine. The mine faces closure unless there is a substantial surge in world copper prices, which would make mining of these fairly inaccessible copper reserves economically worthwhile.

Que River

In 1988-89, 276 400 tonnes of ore were recovered from the Aberfoyle Que River mine. 254 400 tonnes of ore were transported to the Pasminco mill at Rosebery for processing. Exploratory drilling led to only a minimal increase in the size of the ore reserves. Proved and probable reserves in November 1988 were 810 000

Mount Lyell

In 1991 the countdown to the 1995 shut-down of the Mount Lyell copper mine at Queenstown began. The workforce has been reduced to a record low of 450 and mining is being carried out at the deepest levels of the mine. Despite this, the mine has been producing at a record rate of about 1.5 million tonnes of ore a year, with about 2100 tonnes of copper being recovered.

The averaged grade of the ore from the lower levels of the Prince Lyell shaft is less than expected: about 1.6 per cent compared with an anticipated level of 1.9 per cent. The mine management have set an annual production target of 1.7 million tonnes of ore in order to achieve economic viability in the last years of the life of the mine.

The increases in production capacity have been achieved through a multi-million dollar development program which includes rehabilitation of the Prince Lyell shaft, installation of a new underground crushing and conveying system, and establishment of a 1.2 kilometre-long overland conveyor for transporting ore from the shaft to the concentrator.

The body of ore now being mined could last until June 1996. However, the profitability of keeping the mine open depends on world copper prices and the effect of cost-control measures. The mine could be forced to close in June 1994, when all companies operating under environmental exemptions will have to operate without them. By June 1994 or 1995 the company will have mined out all ore bodies at the 50 and 60 series stopes. By July 1996 it will have met its site clean-up and rehabilitation objectives.

tonnes. The workforce size in 1988-89 was ninety eight.

In 1989-90 the amount of ore mined from underground sources had risen to 280 000 tonnes, but the 290 500 tonnes transported to Rosebery for processing was of a lower grade. Reserves at 4 November 1989 were 400 000 tonnes.

Half the workforce of the Que River mine was retrenched in March 1990 as a result of the

depletion of the ore body. Mining continued at a reduced scale using a workforce of about 15. It continued operating, on a restricted basis, for another 18 months before closing in November 1991.

Henty

Development of the Renison Goldfields Henty gold prospect has continued. The prospect is a joint venture between Renison Goldfields Consolidated Ltd and Little River (Resources) NL.

In 1988-89 the drilling program to estimate gold resources continued. Work began on declines to gain access to the gold-bearing deposits and on infrastructure, including sumps, loading bays and an electrical substation. Prospecting development work was completed in October 1989. An environmental management plan was released in December 1990.

King Island

Ore produced from underground sources in 1988-89 was 142 121 tonnes, a 58 per cent increase over production in 1987-88. The grade of the ore was 1.21 per cent tungstate, which was less than the concentration (1.26 per cent) in 1987-88. A total of 151 000 tonnes of ore was processed in 1988-89, compared with 128 900 tonnes in 1989-90 (from a total production of 132 059 tonnes at a grade of 1.23 per cent tungstate).

The King Island scheelite mine at Grassy ceased operations at the end of November 1990, resulting in the retrenchment of the workforce of almost 90. The closure was the result of falling world tungsten prices and the high value of the Australian dollar.

Savage River

A two-year wind-down of the mine began in October 1988. In 1988-89 concentrate production was over 2.3 million tonnes. A feasibility study was started to assess continuation of production on a reduced scale beyond September 1990. The mine workforce was reduced by 22 per cent through retrenchments and natural attrition, and the number of employees at the pelletising plant fell by six per cent.

In 1989-90 concentrate and pellet production were 2.31 and 2.26 million tonnes respectively. The workforce was reduced from 512 to 486. No exploration work was undertaken on mine leases.

Henty gold prospect

In June 1990, joint venturers Renison Goldfields Consolidated (Tasmania) Ltd and Little River (Resources) NL lodged a development proposal for a gold mining and processing operation at the Henty site, 30 km north of Queenstown. When the mine is approved it will be the only gold mine on the West Coast and could provide about 180 jobs 60 people directly in the mine operations and a further 120 indirectly. Most will come from mining communities on the West Coast.

The two companies have already invested about \$8.5 million on both shallow and surface-based deep drilling programs and on a relatively shallow underground development down to 70 metres. The mineralisation is mostly confined to quartz lenses with analyses indicating that over 90 per cent of the gold could be recovered.

The proposal is, initially, an exploration program which will consist of deep drilling from the surface. If successful, it would be followed by construction of 400 metre to 500 metre shafts, and associated lateral mine workings which could evaluate the deep zone of gold ore.

An environmental management plan (EMP) for the development was released in December 1990. Under the EMP, underground exploration works will be extended in the first year after the project has been approved. This would be followed by construction of upgraded roads to the mine site and the building of a processing plant and surface facilities for mine ventilation. In years two and three a 510 metre shaft, with associated drives and cross-cuts, would be excavated to allow for an intensive drilling program to confirm the gold ore reserves. The EMP proposed that 420 000 tonnes of ore would be produced by the mine in the first five years of operation.

The mining and processing of the gold ore will involve toxic products such as cyanide. Overflow water containing cyanide will be recycled at the mine plant and tailing containing cyanide will be concentrated and detoxified. When the effluent has been cleaned to State government standards much of it will be discharged into either the Henty River or into a tributary of Lake Newton.

Renison Bell

In 1988-89, 830 083 tonnes of ore were mined at the Renison mine at Renison Bell and 822 854 tonnes were processed. In 1989-90, 753 786 tonnes were mined at a grade of 1.34 per cent tin and 741 569 tonnes were processed. A substantial fall in the price of tin in early 1989 forced the mine management to adopt cost-cutting measures. In April 1990 the workforce was reduced by 50 and job restructuring was introduced to improve efficiency.

The mine underwent a period of closure in early 1991 as a result of falling world tin prices and an initial inability of mine management and mining unions to reach agreement on new mining practices and conditions.

Rosebery

Underground production by Pasmaenco Metals-EZ at the Rosebery zinc, lead and silver mine in 1988-89 was 516 863 tonnes with a headgrade of 10.52 per cent zinc. A total of 766 746 tonnes of ore was milled, of which 506 236 tonnes originated from Rosebery. The workforce for the end of June 1989 was 488.

In 1989-90 the amount of ore mined was 482 876 (10.4 per cent zinc headgrade) and 782 273 tonnes were processed, 489 617 tonnes coming from Rosebery. Recovery was less than in 1988-89 because of lower headgrades and high iron content in the ore.

The mine aims to produce 550 000 tonnes of ore in 1990-91. At its present rate of production the mine should have an operating life of at least 13 years. One hundred workers were retrenched in March 1991. The workforce has fallen from about 1100 in 1981 to 340 in April 1991.

Hellyer

The silver-lead-zinc ore body discovered at Hellyer in 1983 was commissioned as a large-scale mining and ore treatment operation by its owners (Aberfoyle Resources) in 1989. The ore body, estimated at about 15 million tonnes, can be mined at a rate of more than one million tonnes of ore a year. The on-site mill was completed in February 1989 and commissioned in March. Up until 30 June of that year, 423 096 tonnes of ore, at a headgrade of 14.3 per cent zinc, were mined. The workforce for 1988-89 was 177.

In 1989-90, 900 000 tonnes of ore (with a headgrade of 13.3 per cent zinc, 7.1 per cent lead and 166 g/t silver) were mined. Employment had increased to 239. The concentrator performance improved during the year to reach an annual ore throughput rate equivalent to one million tonnes of ore. An increase in flotation capacity, to allow for treatment of up to 1.25 million tonnes of ore, was undertaken.

Iron oxide pigments at Savage River

The Savage River iron ore mine on Tasmania's West Coast faced closure in 1990 after Japanese steel-mill customers decided not to renew contracts for iron ore pellets in August 1988. This would have led to retrenchment of the mine's workforce of 300.

The mining township has been saved by the discovery of a large deposit of fine-grained iron oxides. The oxides were found during a drilling program in the area in early 1990. Over 350 000 tonnes were discovered, although mine representatives estimate that this may be only ten per cent of the resource. The deposit has the potential to raise \$15 million per year in exports.

The 350 000 tonnes could maintain a mine for over 10 years with a projected average output of 10 000 tonnes per year. This could result in employment of 20 permanent staff and income for the mine of between \$10million and \$15 million per year.

The oxides exist in three colours: red, yellow and brown. These pigments can be used as colouring agents in paint, bricks and pavers, roofing tiles, plastics and wood stains for both the domestic and overseas manufacturing markets. The pigment can sell for \$1500 per tonne on the world market and demand was very strong. By comparison, regular iron ore sold for \$40 per tonne.

The mine is expected to open in a couple of years after a processing plant has been constructed in the township of Savage River. Transport of the pigment will either be by containerised road transport to Burnie or via the Emu Bay Railway.

CLOSURE OF KING ISLAND SCHEELITE MINE

The township of Grassy is the site of the North Broken Hill-Peko (NBH-P) scheelite mine which closed on 30 November 1990, throwing almost a fifth of King Island's workforce out of work. Closure of the mine has been likely since NBH-P unsuccessfully offered it for sale in July 1990.

Deteriorating tungsten prices on overseas markets had been the prime factor in prompting the decision to sell the mine. As well, efforts to secure a deal with potential overseas tungsten users, including Japanese buyers, had failed. A representative of NBH-P has blamed a Chinese monopoly of the international tungsten market for the failure of the mine.

The mine has faced closure on several occasions in the past. It began operations in 1917 but was closed three years later when tungsten prices fell. It remained closed between 1920 and 1937. The mine was revived in 1937 with the installation of a treatment plant and it was incorporated as King Island Scheelite Development Company Ltd NL. In 1947 the company was voluntarily wound up and reconstructed with its current name (King Island Scheelite Ltd).

The mine has been managed since 1947 by King Island Scheelite Ltd, a subsidiary of NBH-P. The company experienced a time of prosperity in the 1950s when the war in Korea created a large demand for tungsten for armour plating and weapons-grade steel. Tungsten, which has the highest melting point of all metals, is added to steel to make it harder and more elastic and able to be used in materials which have to be able to withstand high temperatures.

Once the war had passed, the market for tungsten declined and in 1958 it was closed for two years and placed on a care and maintenance program. In 1969 the mine became part of the Peko group.

Low tungsten prices in the 1980s forced a change in strategy for the mine with a need to either lift productivity or cease operations. The price of tungsten had dropped from \$US140 per tonne in 1980 to about \$US50 per tonne. The new planning and operating strategies were so successful that the mine was able

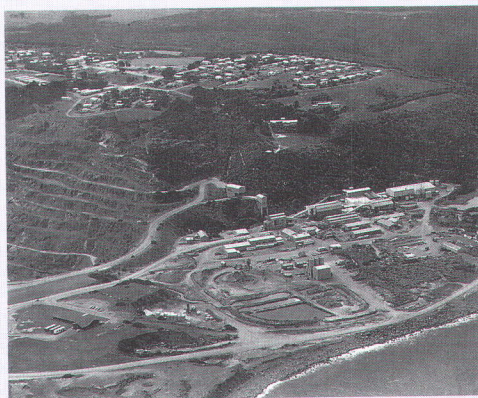


Photo: The Advocate

to lift productivity by 50 per cent in 18 months. At the peak of its profitability about 10 years ago, the mine had a workforce of over 500.

The tungsten was produced from scheelite in one of two processes: directly from calcium tungstate ore or in a chemically reconstructed form in the mine's artificial scheelite plant. The scheelite ore was originally bagged by hand until 1943 when the loading operation used shovels and six-tonne trucks.

Closure of the mine in 1990 saw the retrenchment of 89 workers. One hundred employees had been retrenched in 1982. The mine had accounted for twelve per cent of King Island's shipping revenue and the local council relied on its operation to provide \$80 000 in annual rates. The closure would take about \$3 million, and 200 to 300 people, out of the island's economy. Almost 20 per cent of King Island's population of 1700 residents will be directly affected by the closure.

The company has offered the township for sale. The 7000 hectares are estimated to be worth \$10 million and include 119 houses, seven shops, a water and sewage treatment plant, tennis and squash courts, and a golf course and clubhouse. Only 27 properties in the township are freehold. The bulk of the land holdings could be split up into smaller dairy farms and the township itself could provide the basis for a tourist complex.

In 1991 Aberfoyle were mining and treating 1.25 million tonnes of ore a year using a workforce of 240. The estimated productive life of the mine is about 12 years.

Lottah

In 1988, Spectrum Resources started development of an underground tin mine at the former Anchor open-cut mine near Lottah. The mine is expected to have an annual production capacity of 400 tonnes of high-grade cassiterite from 100 000 tonnes of ore. In 1989-90, 43 000 tonnes of ore were mined, with an average head-grade of 0.44 per cent tin.

Kara

The scheelite mine operated by Tasmania Mines produced 129 260 tonnes of ore in 1988-89 at a grade of 0.77 per cent tungstate. During the year, 151 000 tonnes of ore were processed. In 1989-90, 208 000 tonnes of ore were mined, including 53 000 tonnes of marginal stockpile ore and 55 000 tonnes of waste.

The stockpile of magnetite waste discarded by the old Kara milling operation is being drilled, sampled and assessed with a view to potential sales for the treated magnetite.

Infrastructure

The Emu Bay Railway Company, a member of the Pasminco mining group, announced a \$4 million modernisation program for its engineering workshops in 1990. The railway,

14.1 MINERAL LEASES AND LICENCES, TASMANIA

	1988-89	1989-90
Number of leases & licences applied for	95	91
Area of leases & licences applied for (ha)	11 160	4 941
Number of leases & licences granted	63	78
Area of leases & licences granted (ha)	1 384	3 949
Total number of leases & licences in force	1 160	945
Total area of leases & licences in force (ha)	76 256	68 073

(Source: Div. of Mines & Mineral Resources, Annual Report).

Beaconsfield Gold Mine

Plans are underway to resume mining at the old Beaconsfield gold mine in northern Tasmania. Gold was first discovered on the eastern slope of Cabbage Tree Hill, west of Beaconsfield, in 1877. The mine operated from 1877 to 1914, producing 26 578 kilograms of gold from 1 085 000 tonnes of ore.

A number of shafts were sunk in the area, the main ones intercepting the original reef were the Main, Hart and Grubb shafts. During its working life the mine was subject to heavy water inflows and became known as one of the wettest mines in Australia.

An underground mining lease application has been made to the Director of Mines by a subsidiary of Beaconsfield Gold Mines Ltd. The application would involve mining at depth beneath private land. The main mining is planned to be done at a depth of 350 metres, with an additional area (at about 100 metres below the surface) around the old Hart shaft which the company is rehabilitating. The ore body is believed to be 350 metres wide and about 2 metres deep, dipping north-east at an angle of 55 degrees. After water is removed from the bottom of the old shaft (420 metres down) a sampling and rehabilitation program will start. If ore reserves are proven, the company plans to mine 75 000 tonnes of ore a year. About \$18 million will need to be spent in removing the water from the mine and in proving the extent of its reserves. A processing mill and tailings dam will be built about 2.5 km west of the mine site.

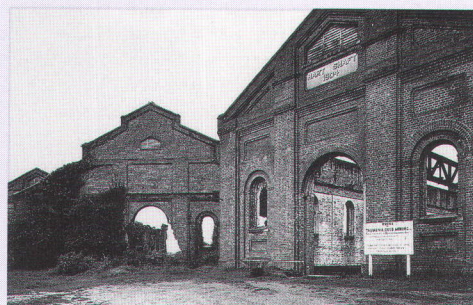


Photo: Tasphoto Services

14. 2 PRODUCTION OF METALLIC MINERALS, TASMANIA

<i>Mineral</i>	<i>Unit</i>	<i>1987-88</i>	<i>1988-89</i>
Copper concentrate	'000 tonnes	84	68
Gold bullion	kg	145	—
Iron ore pellets	'000 tonnes	2 260	2 295
Iron oxide	'000 tonnes	28	117
Lead concentrate	'000 tonnes	31	30
Lead-copper concentrate	'000 tonnes	33	31
Lead-zinc concentrate	'000 tonnes	53	57
Molybdenum concentrate	tonnes	19	32
Scheelite concentrate	tonnes	2 000	2 378
Tin concentrate	'000 tonnes	13	14
Zinc concentrate	'000 tonnes	152	157

(Source: ABS Catalogue No. 8401.6).

which runs from Emu Bay near Burnie to Zeehan on the West Coast, services several of the major mining sites in the West, including Mount Lyell, Rosebery and Aberfoyle. The company also provides general engineering services to the Pasminco Rosebery mines. Stage one of the project, the rebuilding of the company's fabrication workshop section, was to cost \$1.7 million with a completion date of January 1991. Stages two and three, to cost an additional two to three million dollars, were to involve rebuilding of the machine workshop, the paint shop and the general stores area.

Future prospects

Representatives of the mining industry have called upon the State Government to commit itself to a continuation of policies on land management and mining. These would include a moratorium on additions to Tasmania's World Heritage Area and National Parks, a clear set of environmental guidelines for development, and recognition that changes in technology and demand for minerals could make previously uneconomic mining sites more viable. While more than \$940 million in capital investment in mines and processing plants has been proposed for the next five years, only \$140 million has been firmly committed.

Five major mines (Mount Farrell, Cleveland, Rossarden, Hercules and King Island) have closed during the past 15 years. Other existing mines are expected to close over the next 20 years. Mining representatives believe that new mines need to be developed at a rate of one

every five years if the industry is to continue at its current level.

14.1.2 Fuel minerals

Since settlement, coal has been found at 134 places within Tasmania, and a total of 112 coal mines has at some time operated. Currently, three coal mines operate in the State.

Coal is the major fuel mineral mined in Tasmania. In the past minor quantities of shale have been quarried. Peat production continues on a small scale but this is used for horticultural applications rather than fuel.

In 1988-89, 3205 cubic metres of peat were extracted. This figure dropped to 1367 cubic metres in 1989-90.

The major coal producer in the State is the Cornwall Coal Company NL which operates Duncan Colliery at Fingal and Blackwood Colliery near St Marys, in Tasmania's North-East. The bulk of the production from these collieries is mined using underground mining methods.

Cornwall Coal Company

In 1988-89 the company produced 589 943 tonnes of run-of-mine coal and 356 282 tonnes of washed coal. In 1989-90, while run-of-mine production was lower (574 293 tonnes), washed coal production increased to 359 940 tonnes from the treatment of 596 576 tonnes of raw coal.

RENISON BELL: 100 YEARS

The Renison Limited mining company celebrated its centenary in 1990. The company, known as the Renison Bell Prospecting and Mining Company, based in the West Coast town of Zeehan, was first registered on 22 September 1890. The first reported discovery of cassiterite, a tin oxide ore, was made by Ringrose Nicholson who pegged an 80-acre lease in deposits along the Ring River in June 1890. A month earlier, prospector George Renison Bell had described deposits of 'silver-lead' from four 40-acre leases which stretched north from Renison Bell Hill across the Argent River.

Bell had formed the Renison Bell Prospecting Association in Hobart in the late 1880s as a means of financing his prospecting activities on the West Coast. He transferred the leases to the Renison Bell Mining and Prospecting Company which was listed on the Hobart Stock Exchange in October 1890.

Alluvial mining of cassiterite began soon after Nicholson's discoveries, with further ore discoveries in 1890 pointing to stanniferous gossans overlying large deposits of tin-bearing iron sulphides (mainly pyrrhotite).

Early production from the Renison tin field was patchy with at best 58 tonnes of tin being recovered from 7500 tonnes of ore. Early investors in the company suffered sizeable financial losses. Although the surface deposits had been rich in tin, the deeper iron sulphide ores were assayed at less than two per cent. Without the benefit of modern extraction methods, profitable recovery of the tin was almost impossible. The field was worked intermittently by up to 10 small companies but the deposits never became economically viable.

The area was further prospected by an Irish hotelier, Paddy O'Dea, who pegged out a 77-acre site and floated the Two Boulders Tin Mining Company NL to work the lease. The mine began operation in 1908, a concentrator having been built by the Boulder Mining Company in 1907. It was a time of high tin prices and for the first few years the mine showed a profit. However, as the mining operations went deeper, the quality of the ore declined. For the

next 20 years mining and treatment of tin at Renison was fairly unsuccessful.

In the early 1930s a sulphide flotation process to extract tin from the ores was developed by a metallurgist at the Zeehan School of Mines. This process was demonstrated to O'Dea who realised the potential of the process. He set about merging all the syndicates and companies with leases on the Renison fields. In 1936 he floated the Renison Associated Tin Mines NL.

While the potential of the mine was always suspected, it was not until diamond drilling operations were undertaken between 1955 and 1957 that a much greater potential for the field was realised. After the takeover of the mine in 1958 by the Mount Lyell Mining and Railway Company a comprehensive exploration program was begun. By 1962 the company was operating at a profit and further exploration located additional sizeable ore bodies.

In 1964 Consolidated Goldfields Australia Ltd, through its holding in the Mount Lyell Company, gained a controlling interest and the name of the company was changed to Renison Limited. The opening of what is now the Renison mine occurred in 1965 and involved a new mine and associated facilities. The new treatment pit which was installed had a capacity of 1000 tonnes of ore a day. In 1970 the addition of a cassiterite flotation process to the original sulphide flotation system led to improved tin recovery.

The introduction of a heavy-media separation plant in 1974 increased capacity to 1750 tonnes of ore a day. A \$20 million dollar expansion program was announced in 1978. It extended the company's ore reserves by 2.17 million tonnes while additions to the mine's milling plant lifted capacity to 850 000 tonnes a year, an increase of 35 per cent.

During periods of peak production the mine was producing slightly less than half of the total Australian tin production.

The mine has been subject to a series of industrial disputes and production problems, particularly during the later years of its operating life.

In May 1975, 150 men were laid off in a dispute over proposed use of contract labour. This dispute widened to include an additional 108 workers. There were further concerns that the mine could not produce enough tin to meet its quotas. This dispute cost the company an estimated \$300 000 a day for two weeks.

Another major problem occurred in March 1986 when the mine reported its first operating loss. The world price for tin dropped from \$17 000 per tonne in October 1985 to \$8500 per tonne in March 1986. The fall in prices was attributed to a number of factors; including the lifting of protective controlling measures by the International Tin Council, the operation of cheap tin mining operations in Brazil, and the stockpiling of large amounts of tin worldwide.

In July 1987 the mine was hit by further industrial action when 180 miners walked out in sympathy with a fellow worker over a pay dispute. In September there was an additional mass walkout which cost the company \$200 000 a day.

Although the mine was producing record amounts of tin, losses continued. In March 1990 the mine management announced that it would be retrenching 80 workers out of its workforce of 450 in order to try to contain its losses. In April the numbers in the workforce had been reduced from about 450 to 362.

The reduction in the size of the workforce saw the introduction of a new system of production. Workers were to be placed in multi-disciplined teams which involved rationalisation of work tasks from the management level down. Each team would be multiskilled and responsible for a complete process, not just their area of expertise. The aim of the restructuring was to continue to produce at the same rate for the first six months of the financial year (3700 tonnes of tin) but with about 80 fewer workers.

In February 1991 Renison Goldfields Consolidated told a hearing of the Industrial Relations Commission that the price of tin on world markets had fallen from about \$16 000 per tonne in 1985 to \$6958 at present and that this represented a reduction in annual earnings of \$68 million.

The company sought a five-day working week, a closure of the mine over the

Christmas-New Year period, a ban on all overtime and a withdrawal of the present underground mining agreements. All of these changes to conditions were rejected by the unions. At the time production costs in Brazilian tin mines were cut to below \$6000 per tonne.

On 6 March 1991 the Renison mine closed after five weeks of union-management talks failed to reach agreement on how to increase productivity and reduce costs. The announcement was made by Renison Goldfields Consolidated from its head office in Sydney. The mine was placed on a care and maintenance program.

Negotiations between the mine management, State Government and unions followed the closure. In late March, a target date of 2 April 1991 was set for the re-opening of the mine. This would give the taskforce, set up between mine management and the union, time to work out a program which would allow the mine to be run with a reduced workforce of 250. One objective of the plan was to reduce annual production from 800 000 tonnes to 525 000 tonnes in order to help counter the big fall in world tin prices which had led to the original plan to close the mine.

The plan to re-open the mine, which was eventually accepted by the workers, included substantial cuts in income (of between 20 and 50 per cent) and the imposition of a five-day week. Underground workers could then expect to receive between \$20 000 and \$40 000 a year.

In all, about 150 workers had left the mine, the remainder accepting the new terms of employment. This left a workforce of 207, which was 43 fewer than the number which was first proposed by Renison Goldfields Consolidated. The shortfall in the number of workers has meant that the company had to recruit workers from interstate: boilermakers, fitters and turners, and electricians.

World tin prices in late 1990 and early 1991 dropped to their lowest level since late 1985. The main causes of the slump in prices were rising production, leading to a 60 per cent rise in world stocks during 1990, coupled with stagnant consumption.

The company's Duncan Colliery produced 220 330 tonnes of coal in 1988-89 and 214 950 tonnes in 1989-90.

The Blackwood Colliery produced 321 399 tonnes of coal from underground methods in 1988-89 and 90 371 tonnes from open-cut sites. In 1989-90 it produced 342 532 tonnes from its

14.3 PRODUCTION OF COAL, TASMANIA (^{'000 tonnes})

Type	1987-88	1988-89
Raw coal	581	632
Washed coal	405	356

(Source: ABS Catalogue No. 8401.6).

collieries (326 275 tonnes from No 1 Colliery and 16 257 tonnes from No 2 Colliery) and 16 811 tonnes from open-cut methods.

Merrywood Coal Company

The Merrywood Coal Company, a division of the Avoca Transport Company Pty Ltd, recommenced operations at its mine at Royal George in July 1989. Pillars left by a previous underground mining operation are being extracted by open-cut operations. The company is also investigating a new mining prospect at Hamilton.

All of the coal mined in Tasmania is used as a boiler fuel by local manufacturers such as the paper mills, the cement works and fish canneries. Tasmanian coal is satisfactory as a boiler fuel but it is unsuitable for export because of its relatively high ash content.

14.1.3 Construction materials

The production of construction materials is basic to all building activity and consequently affects most parts of the economy. Whilst buildings, roads and most services depend on the availability of construction materials, control of costs depends on their being produced locally.

14.1.4 Other non-metallic minerals

The quarrying of limestone is the earliest recorded mining activity in Tasmania for non-metallic minerals other than coal. It rose from 826 000 tonnes in 1987-88 to 920 000 tonnes in

1988-89. Silica occurs in a number of locations in Tasmania, both as a deposit of silica sand and as high quality quartzite.

Large quantities of high grade silica were used for production of silicon metal by the silicon metal smelter which was operated by Pioneer Industries at Electra.

In 1988-89, 8024 tonnes of silicon metal were produced from lump silica mined from around the State. In 1989-90 this figure rose to 9700 tonnes, from 20 000 tonnes of raw silica.

MK Silica at Heybridge commissioned a silica flour plant in July 1988, with regular production beginning in November of that year. Two mining programs were carried out at a lease near Corinna on the West Coast to extract about 11 500 tonnes of silica flour.

14.4 PRODUCTION OF CONSTRUCTION MATERIALS (a), TASMANIA (^{'000 tonnes})

Mineral	1987-88	1988-89
Dimension stone	2	1
Crushed and broken stone	2 361	2 441
Gravel (b)	314	101
Sand	713	518
Other	(b) 745	866

(a) Excludes quantities quarried by Government or semi-government authorities (e.g. HEC, Department of Construction, etc.) but includes quantities quarried by local government authorities for road material. (b) Mainly decomposed rock for road material (reclassified as other road material from 1987-88).

(Source: ABS Catalogue No. 8401.6).

Total production of processed flour for 1988-89 was 4076 tonnes. In 1989-90, 19 300 tonnes of silica flour were mined from the Corinna leases. A total of 10 300 tonnes of refined flour was produced.

14.1.5 Value of Production

The value of minerals produced from Tasmanian mines in 1988-89 was \$393.4 million, three per cent more than in 1987-88.

The largest contribution to total production came from the production of metallic minerals and coal (91 per cent).

14.5 PRODUCTION OF OTHER NON-METALLIC MINERALS, TASMANIA ('000 tonnes)

Mineral	1987-88	1988-89
Clays and shale-		
Brick	87	71
Other	73	92
Dolomite	11	38
Limestone (a)	826	920
Peat moss	1	3
Pebbles	—	—
Silica	78	150

(a) Excludes quantities used directly as a building or road material.

(Source: ABS Catalogue No. 8401.6).

14.2 EXPLORATION

14.2.1 Mineral Exploration

Ongoing exploration is necessary to establish new mines, to maintain a skilled labour force and to extend the productive life of capital equipment.

Although the more mineralised regions of the State, such as the Queenstown-Zeehan-Rosebery area in Western Tasmania, have been extensively explored on the surface, much of

Tasmania remains relatively unexplored. The search for 'blind' mineral deposits is still in its infancy.

Mineral exploration today is aimed primarily at discovering 'blind' ore bodies that are concealed either by superficial overburden or overlying rocks that have not been removed by erosion. Modern mineral exploration programs demand a combination of many geological, geo-physical and geochemical techniques and appli-

14.7 VALUE OF MINERALS PRODUCED, TASMANIA (\$m)

Mineral	1987-88	1988-89
Metallic minerals and coal	339.4	358.0
Construction materials	27.6	22.5
Other non-metallic minerals	15.6	12.9
Total	382.6	393.4

(Source: ABS Catalogue No. 8401.6).

cations and may take up to 15 years to come to fruition. Only a very small proportion of mineral exploration programs are successful. Expenditure on private mineral exploration peaked in 1981-82. Exploration funding declined substantially to a low of \$10.4 million in 1987-88, rising to \$131.1 million in 1988-89. Major exploration interests are centred on four main areas:

- The Mt Read Volcanics region from Elliott Bay to Que River, where there are excellent prospects for more zinc-lead-copper-gold-silver deposits;
- The Mt Bischoff-Savage River-Pieman River-Zeehan region, where prospects are high for tin, tungsten, lead, zinc, silver, gold, nickel, osmiridium, iron, copper, asbestos and chromium;
- The Hampshire-Sheffield region, where the attractions are tungsten, tin, zinc, silver, gold, iron and molybdenum; and
- North-eastern Tasmania, bounded by Scamander-Avoca-Lefroy, which has long been prospected for gold, tin, tungsten, silver and lead.

14.6 MINERAL EXPLORATION EXPENDITURE, TASMANIA(\$m)

	1987-88	1988-89
Copper, lead, zinc, silver, nickel and cobalt	4.4	6.1
Gold	2.8	5.0
Iron ore	n.p.	n.p.
Mineral sands	0.2	0.6
Tin, tungsten, scheelite, wolfram	0.2	0.4
Other metallic	1.8	—
Coal	n.p.	n.p.
Construction materials	n.p.	—
Other non-metallic	1.0	0.9
Total	10.4	13.1

(Source: ABS Catalogue No. 8401.6).

ABORIGINAL 'MINING'

Mining and quarrying of materials in Tasmania go back well beyond European settlement. The Tasmanian Aborigines are known to have quarried and extracted stone and ochre from numerous sites around the island.

Hand stencils, using red ochre as a pigment, have been found on the walls of caves in the Southwest and have been dated at more than 11 000 years. The stencils were sprayed on by mouth using a mixture of blood, animal fat and ochre. The Aborigines mined ochre extensively from sites around Tasmania and transported the substance, as well as other prized materials such as Darwin glass, throughout the island.

Ochre is a friable, earthy, iron-based pigment which exists in a variety of colours ranging from yellow to reddish brown. The colour is determined by the amount of water in the compound: yellow ochre or limonite is a hydrated iron oxide; red ochre or haematite is the dehydrated version. Heating or roasting of yellow ochre can alter its colour to red or brown.

Of the 13 known ochre sites, those in the North-West of the State at Mount Gog, Mount Housetop and Mount Vandyke formed the most important sources of the pigment. These sites were in the 'country' of the North Tribe. The sites were connected by a well defined system of 'roads' of communication which were kept open by firing.

Recent archaeological excavations at the Mount Gog site have uncovered a network of trenches, holes and tunnels. The best preserved trench is about 35 metres in length and 1.5 metres at its deepest point. The trenches mark the positions where women miners (men did not mine for ochre at this site) have excavated the ground in search of the valuable pigment.

The miners used short sticks, shaped and pointed like a chisel, to dig the ochre. A stone was used as a mallet to drive the digging stick. The ochre was then roasted and ground on ballywinne stones; disc-shaped riverine stones which were used as palettes to grind the ochre.

Other known ochre sites were at Welcome River, Queenstown and Point Hibbs on the West coast; Louisa Bay, Melaleuca Lagoon

and Randalls Bay Rocks on the South coast; Ouse in the Derwent Valley; Russel Plains and Swan Island in the north; and Sandford and Maria Island on the East Coast.

A study of Aboriginal stone materials and their sites of extraction has indicated that a wide variety of mainly siliceous materials were used. These materials were usually derived locally from outcrops, but sometimes prized materials could be carried over considerable distances.

The main materials used included hornfelsic rocks, quartzites, quartz chalcedony, opal, cherts, spongolite and silicified breccias.

In his 1972 study of Aboriginal flaked stone implements, F.L. Sutherland described 180 known and probable stone sources around the State.

Most of these sites were in the east, south-east, south and Midlands areas of the State, with relatively few sites on the West Coast and no recordings, at that time, from the denser western rainforest areas although recent work



*An Aboriginal ochre mining trench.
Photo: Dr Antonio Sagona*

by archaeologists and the State Department of Parks, Wildlife and Heritage has extended the number and geographical range of the sites.

On the south-east coast and in the southern Midlands most of the sites are found in hornfelsic and quartzite rocks at Jurassic dolerite-Triassic strata contacts. Quarries are particularly abundant in the Swanston and Oatlands areas which are on the major Aboriginal migratory route inland from the Little Swanport River valley to the Midlands and Central Plateau. Areas of cherty hornfels, up to one kilometre across, were worked with rounded hand-size dolerite hammer stones. These hammer stones, showing impact scars, occur sporadically among the flaked debris in these sites and were brought up from nearby river beds.

The distribution of the quarry and outcrop sites described by Sutherland are:

- West Coast (North Mt Cameron West to south of Port Davey) - 21 sites;
- North Coast (Rocky Cape to East Cape Portland) - 19 sites;
- North and Central (Tamar River to Mt Rufus) - 17 sites;
- East Coast (Eddystone Pt to Middle Peak) - 31 sites;

- Midlands and Eastern (Cranbrook to Lake Tiberias) - 35 sites;
- Southern (Bluff River to Ellendale) - 16 sites; and
- South Coast (Remarkable Cave to Huon Point) - 41 sites.

The extraction and transport of Darwin glass by the Aborigines is less well documented. The glass was prized by the Aborigines for both its ornamental properties and its sharpness (for use as thumbnail scrapers etc). Fragments of it have been found at sites far from the original impact site near Mt Darwin including the Weld river valley in southern Tasmania. Other fragments have been found in sites in the Gordon, Franklin and Maxwell river valleys.

It is not known whether the original fragments of glass were mined or simply extracted from the material which had been turned over by tree roots. Like spongelite, another valuable lithic material excavated from a single site on the West Coast, pieces of Darwin glass were constantly reworked and transported by their owners from site to site. As a result, examples of this material are relatively rare in Aboriginal sites, appearing as pieces which are only a small fraction of their original size or only as worked flakes of the material.



An assortment of Aboriginal ochre processing stone tools found at Mt Gog, including discolored riverine stones (known as Ballywinne stones in certain Tasmanian Aboriginal languages) and their lunate fragments, a pestle and a wedge. Photo: Dr Antonio Sagona

14.2.2 Petroleum exploration

Offshore

There was a very low level of exploration for petroleum in 1988-89 and no new seismic surveys were undertaken in this period. During the year a marine geochemical 'sniffer' survey was conducted by Amoco and partners in the Bass Basin and 2000 line kilometres of new data were acquired.

In April 1989 four Tasmanian offshore areas were made available for exploration tender.

In 1989-90 two additional offshore permits were granted, one to the Shell Company of Australia (Bass Basin) and one to the Maxus Energy Corporation of Dallas (Sorell Basin).

In June 1991 the Department of Resources and Energy released a report on the potential supply of natural gas from the Yolla and Dunoon Basins. Estimated levels of recoverable gas were as high as 28 billion cubic metres from the two basins. The South Australian petroleum exploration company, Sagasco Holdings Ltd., is proceeding with a proposal to develop the Yolla Basin.

Onshore

Conga Oil continued their exploration activities for Ordovician-sourced hydrocarbons beneath the Tasmania Basin during 1988-89 and 1989-90.

The University of Tasmania and the CSIRO Division of Oceanography applied for a NERDDEC grant to further explore Tasmanian hydrocarbon potential.

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Chapter 15

FISHING

As the world's economic climate remains depressed, while costs continue to rise, Tasmanian fishers have had to contend with declining fish populations and unrewarding returns for some species. The fishing industry has diversified in response to these changes. Some fishers have decided that fish culture may assure a better future, either as a supplementary activity to sea fishing or as a full-time venture.

The estimated value of fish landed in Tasmania in 1990 from local and Commonwealth wild fisheries was \$115.6 million, a 27 per cent increase on the value recorded for 1988-89. For the same period the value of aquaculture leapt by 45 per cent from \$26 million in 1988-89 to \$37.9 million in 1990.

The total quantity of fish production doubled from 28 545 tonnes in 1988-89 to 58 428 tonnes in 1990 whilst there was a 31 per cent increase in the estimated value of the industry for the same period to \$153.5 million in 1990.

15.1 THE FISHING INDUSTRY

15.1.1 Employment

Fishing and dependent industries are labour-intensive activities. It has been estimated that primary industries and people dependent on those industries provide about 34 per cent of all employment in Tasmania. Although many agricultural processes have been automated, fishing still needs people, thereby helping to counter increasing unemployment.

Technology in fishing supplements existing resources rather than replacing people. For

15.1 FISHING INDUSTRY EMPLOYMENT, TASMANIA

<i>Period (a)</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>
1987	587	120	707
1988	806	—	806
1989	1 411	196	1 607
1990	1 267	399	1 666
1991	1 421	403	1 824

(a) Estimates for August of each year

example, much of the electronic equipment on a boat is essential for safe and effective fishing.

15.1.2 Concerns in the fishing industry

Costs for fishing continue to rise, as do fishing licences and levies. Those under-capitalised fishers who wish to install expensive equipment to operate effectively are finding it difficult to arrange affordable loans. Over-capitalised fishers have to maintain boats which are often under-utilised and which produce an insufficient return to allow a reasonable profit.

However, proposals to encourage some industry members to leave sea-fishing, perhaps for aquaculture, are expensive.

Lack of biological knowledge about certain vital species impedes the exploitation of not only standard commercial species but of potentially valuable and populous species.

Fishing by non-Tasmanian fishers around Tasmania has an adverse impact on fish populations resulting in a call for the imposition of greater limits. There are claims that a return to hook fishing for taking many species is essential if threatened fisheries are to survive.

Radio communication with the fleet, essential for efficiency and safety, may become less effective with the basing of the transmitter in Victoria, far from the more remote fisheries to the south of Tasmania. The local representative industry body and State Government are negotiating with the Commonwealth to minimise the effects of the change.

15.1.3 Major species

There are some interesting comparisons for the different species that made up the Tasmanian fishing catch in 1990.

Whilst the production of Atlantic Salmon was only four per cent of the total landed weight, it was worth 16 per cent of the total value. However, while 50 per cent of the total catch weight came from Orange Roughy, it comprised only 23 per cent of the total value. Fin fish, as a total, made up 92 per cent of the total weight of 1990 production but comprised 55 per cent of the total value. Southern Rock Lobster and Abalone are highly valued fish which is reflected in their relative contribution to the total value of production, 18 and 23 per cent respectively.

Production and value

There was a dramatic increase in the catch of Orange Roughy between 1988-89 and 1990, when it increased from 6997 tonnes to 29 332 tonnes. In the same period the value increased from \$13.6 million to \$34.8 million.

The quantity of shark caught from State and Commonwealth fisheries and landed in Tasmania in 1990 was 2119 tonnes, one and a half

15.2 FISHERIES - PRODUCTION AND VALUE

	1988-89		1990	
	Production (a)(tonnes)	Value (\$m)	Production (a)(tonnes)	Value (\$m)
Wild fisheries -				
South East Trawl	7 848	14.7	31 300	36.6
Abalone	2 421	39.3	2 099	35.6
Southern Rock Lobster	1 850	27.2	1 566	27.5
Inshore (inc. Shark)	4 229	8.4	5 962	13.2
Jack Mackerel	8 342	1.2	13 698	2.4
Commercial dive	31	0.2	31	0.3
Total	24 721	91.0	54 656	115.6
Aquaculture -				
Atlantic Salmon	376	5.6	2 079	24.9
Rainbow Trout	1 113	11.1	662	6.6
Pacific Oysters	2 303	9.2	975	6.2
Mussels	32	0.1	56	0.1
Total	3 824	26.0	3 772	37.8
Total	28 545	117.1	58 428	153.5

(a) Landed weight of fish in Tasmania.

(Source: The Sea Fisheries Division of the Tasmanian Department of Primary Industry).

times as much as reported for the 1988-89 season. The value of the catch more than doubled to \$7.2 million in 1990.

In 1990 fishers landed 1208 tonnes of Trevally worth \$1.5 million, more than three times the size of the 1988-89 catch.

Average return to producers

The average price paid for Jack Mackerel increased in 1990 by 20 per cent to 18 cents per kilogram whilst Orange Roughy decreased by 39 per cent to \$1.18 per kilogram.

In 1990 the average price of Atlantic Salmon fell by 20 per cent to \$12 per kilogram.

The average price paid for Southern Rock Lobster increased by 19 per cent to \$17.54 per kilogram.

The average price of Pacific Oysters rose to \$6.34 per kilogram in 1990, an increase of 59 per cent.

Minor species recording significant price increases in 1990 were Flathead, which rose by

15.3 PRIMARY INDUSTRY PRODUCTION BY SECTOR

Sector	1988-89		1989-90	
	(\$m)	(%)	(\$m)	(%)
Agriculture	603.1	54.2	623.7	49.4
Fishing	117.1	10.5	(a) 153.5	12.2
Mining	393.4	35.3	484.8	38.4
Total	1 113.6	100.0	1 262.0	100.0

(a) Calendar year 1990.

30 per cent to \$1.38 per kilogram and Tuna, which rose by 40 per cent to \$3.49 per kilogram.

Relative value of fishing

Compared to agriculture and mining, fishing has slightly increased its relative importance (in terms of value of production) from 10.5 per cent in 1988-89 to 12.2 percent in 1990.

15.2 MOLLUSCS

15.2.1 Abalone

Of the seven species of abalone found on the southern coast of Australia, three are harvested commercially: the Greenlip Abalone (*Haliotis laevis*), the Blacklip Abalone (*H. ruber*) and Roe's Abalone (*H. roei*). The Greenlip and Blacklip varieties constitute the bulk of Tasmania's abalone.

The abalone catch declined by 13 per cent from 2400 tonnes in 1988-89, valued at \$39.3 million to 2100 tonnes worth \$35.6 million in 1990.

Until 1990, when it was supplanted by Orange Roughy, abalone was the single most significant contributor to the total value of the State's sea fisheries. Tasmania supplies the single largest portion of the Australian catch.

Yields of abalone have been diminishing steadily and significantly for some years. However, the value of production has continued to increase due to rising prices.

Management and conservation of fisheries

Because of the problems of variation in growth rate between regions, the setting of a uniform, minimum-size limit for all Tasmania is unsatisfactory. In applying a uniform limit,

some fast-developing immature fish will be taken while other slow-growing mature fish may never attain the minimum legal size or be harvested when they are past their optimum condition.

Over-fishing is difficult to establish since abalone populations remain undetermined. However, declining annual catches indicate that numbers are dropping.

Research may overcome this re-stocking problem; re-seeding of declining colonies is a possible solution, for instance.

The number of legal divers is regulated by licensing, though such a valuable catch attracts poachers and so limitations on numbers to be taken may be exceeded because of illicit fishing. Reduced quotas may be introduced, as necessary, to halt proven over-fishing.

Research

A three-year study into abalone numbers, financed by the Fishing Industry Research and Development Trust Fund, is being conducted to assess the accuracy with which adult and juvenile abalone can be counted.

Rates of larval settlement and reasons for different rates will be determined experimentally; two sites have been chosen, at which all abalone exceeding 80 millimetres will be tagged.

Length at age, age at maturity, age/fecundity relationships, yield per recruit, egg per recruit and mortality rates will be determined after the data has been examined. Variations in growing rate at different latitudes and the setting of legal size limits according to region are matters being studied.

Stunted abalone season

A four-week season for mid-1991 was gazetted, allowing the taking of Blacklip Abalone in the stunted abalone fishery of Bass Strait. A profitable dive resulted, repeating the success of the previous year when the fishery was opened for the first time to commercial and recreational divers.

Export

The Federal government is being lobbied by NFIC at the instigation of the Australasian Abalone Producers Association to seek reduction of high import duties imposed in some South-East Asian countries.

One suggestion is that access to the Australian Fishing Zone (AFZ) and our markets should be conditional on more favourable treatment of our exports; representations to Japan some years ago about excessive import duties proved successful.

15.4 ABALONE CATCH - TASMANIA AND AUSTRALIA

Item	1986-87	1987-88	1988-89
Landed weight (tonnes) —			
Tasmania	3 245	3 214	2 421
Australia	6 700	6 800	5 500
Value (\$m) —			
Tasmania	44.7	46.2	39.3
Australia	84.0	96.0	87.3
Unit value (\$/kg) —			
Tasmania	13.77	14.39	16.96
Australia	12.54	14.12	15.87

15.2.2 Oysters

Oysters still continue to contribute a significant amount to the total value of all Tasmanian fisheries, though production, returns and unit value have fluctuated considerably in recent years.

The quantity of Pacific Oysters produced fell by 58 per cent to 975 tonnes in 1990. The value of production also declined by 33 per cent from \$9.2 million in 1988-89 to \$6.2 million in 1990.

Consumption of Tasmanian oysters

Over recent years most of our exports have gone to Melbourne, which usually imports only about 10 to 15 per cent of its very large requirements from elsewhere.

Ensuring clean oysters

The Shellfish Sanitation Program, administered and enforced by the Division of Sea Fisheries ensures that an unpolluted product is available for export or domestic consumption.

This program has proved its value, since oyster growers constantly receive large orders from interstate and overseas merchants aware of Tasmania's reputation as a supplier of clean, healthy oysters.

Two recent developments

One Tasmanian aquaculturist is cultivating the Tasmanian Flat (or Mud) Oyster (*Ostrea angasi*), similar to the European Flat Oyster (*O. edulis*), a gourmet's delight with a strong, meaty taste. It is hoped that the European market will accept them readily and be willing to pay well enough to enable the venture to succeed and flourish.

Cultivating the Tasmanian Flat Oyster is expensive since they mature at about half the rate of the Pacific Oyster, a fast-growing species.

Two methods of cultivation have been tried, the first using baskets in which the oysters are stacked on different levels. In the second method oysters are placed in submerged mesh envelopes on metal frames. In both methods the oysters are held well above the sea bed away from predators.

Another recent development is the establishment at St Helens of a research facility, hatchery and nursery to farm both oysters and scallops.

By developing the larvae to full adult size in controlled-temperature tanks of purified sea water containing selected species and proven strains of algae, year-round production is possible, and the condition of the crop can be monitored at any time.

Moreover, the hazards associated with rearing young of any species by open farming on the coast are eliminated or the effects are easily remedied. Adverse variations in temperature and salinity, silting, pollution, predation, poaching, overcrowding, uncertain or inappropriate food supply, and diseases are the most important problems.

Careful attention is given to cleanliness in every stage of the operation. Healthy oysters are selected as parents, the tanks are filled with sea water taken from deep in Georges Bay, filtered through a one-micron filter then heated to the optimum temperature for ideal development of the crop, which is introduced along with the quantity of algae appropriate for development.

Research continues in the laboratory into breeding of oysters and scallops, selection of even better strains of algae and even the development of a uniform shape for oysters, something which cannot happen in the wild.

Hazards of oyster-farming

Although oysters are hardy creatures, both high temperatures and excess fresh water can kill them. Development in deep-water sites away from river mouths will eliminate both of these problems. Oysters can tolerate fresh water for some days, as happens when prolonged rain causes extensive runoff into estuaries where they flourish.

The importance of water to oysters is clear when we find that they pump about 400 litres a day through their systems in search of food and oxygen. The Shellfish Sanitation Program ensures that pollution is monitored carefully in Tasmania. Because they are filter-feeders oysters cannot select their food and accept

whatever comes. This may be faecal matter, oil, noxious chemicals or heavy metals.

Zoning of oyster-growing areas

In Tasmania, though oysters may be harvested all year round from approved areas with no pollution, other areas are subject to restriction. Approved conditional leases are subjected to a closure notice whenever some form of pollution is likely; after heavy rain or algae growth, for example.

The Shellfish Sanitation Program, by monitoring all operations important to production of clean, healthy oysters, ensures that an unpolluted product results.

Tasmanian Aquaculture Co-operative Society (TACS)

Since over 70 leaseholders are members of TACS, oyster growers are able to present their views convincingly in all matters of concern to the industry and to pool resources. This enables them to engage in activities such as funding market research and commissioning scientific research.

Research and training

Two important areas for research are oyster health and market intelligence. Although money for research has become more difficult to obtain, TACS and the Division of Sea Fisheries were successful in obtaining a grant under the National Teaching Companies Scheme (NTCS) enabling a graduate to be employed in oyster research. The Tasmanian Oyster Research Council (TORC) contributed the balance of costs.

Certain diseases, parasites and pests affecting the survival and growth of oysters are being investigated in a research project based at the Mt Pleasant Laboratories.

The three principal objectives of research at Mt Pleasant are assessment of the health status of Tasmanian-farmed shellfish, the selling of fresh-farmed shellfish in the US market and the prevention

15.5 MAJOR SPECIES

Species	1988-89		1990	
	Landed Weight (tonnes)	Value (\$'000)	Landed Weight (tonnes)	Value (\$'000)
Fin fish —				
Australian Salmon	1 020	791	526	455
Atlantic Salmon	376	5 640	2 079	24 948
Dory	94	90	955	900
Flathead	127	135	152	210
Flounder	52	205	37	166
Grenadier	352	475	549	347
Mackerel	8 342	1 252	13 701	2 405
Morwong	170	164	179	175
Orange Roughy	6 997	13 606	29 332	34 756
Rainbow Trout	1 113	11 130	662	6 620
Shark	821	2 975	2 119	7 157
Snoek (Barracouta)	198	143	366	265
Trevalla	458	2 450	401	1 542
Trevally	366	439	1 208	1 481
Trumpeter	85	256	155	385
Tuna	45	111	198	691
Whiting	92	92	99	116
Other	1 175	1 058	935	1 097
Total	21 883	41 012	53 654	83 716
Crustaceans —				
Southern Rock Lobster	1 850	27 206	1 566	27 462
Other	1	4	1	1
Total	1 851	27 210	1 567	27 463
Molluscs —				
Abalone	2 421	39 308	2 099	35 600
Pacific Oyster	2 303	9 211	975	6 181
Sea Urchins	14	202	18	268
Other	73	145	115	226
Total	4 811	48 866	3 207	42 275
Total	28 545	117 088	58 428	153 455

of disease transfer from State to State. In late 1990 and the first part of 1991, a comprehensive survey of farmed shellfish was undertaken; no diseases of Pacific or Flat Oysters were detected.

To enable effective market research, TORC has established a strategic marketing plan for Pacific Oysters, jointly-funded by the industry and a grant from NTCS. Aspects to be researched embrace destinations and quality of exports, prices obtained by producers, product types and packaging, as well as development plans of other States and countries likely to affect Tasmania's prospects overseas.

Phase one covers export destinations, quantities sold, market price, months when sold and method of shipment. Product types, packaging, processing and distribution channels will be the subjects of phase two. The final phase will cover consumer trends, locally and in selected overseas markets.

15.2.3 Mussels

Production of mussels increased from 32 tonnes valued at \$75 000 in 1988-89 to 560 tonnes worth \$133 000 in 1990. New enterprises for the production of mussels in Tasmania have been developing their sites during recent years as natural stocks have become depleted. Increased tonnages of mussels and greater returns are sure to result from this increased activity.

Mariculture and aquaculture of mussels

Harvesting of mussels from the sea bed, which has depleted numbers seriously, has been supplemented by mariculture on poles and rafts as well as on the sea floor (which is more hazardous because of bottom-dwelling predators). Intensive aquaculture is also being practiced.

Behaviour of mussels in the wild

Unlike oysters, mussels do not anchor themselves permanently but use tough fibres secreted by their byssal glands to moor themselves to temporary resting places, casting off when necessary, then crawling to another location where other fibres for attachment to the substrate are secreted. Small mussels may be carried far by tidal action and currents.

Mussels form large colonies which cause damage in inconvenient places such as intake pipes or over oyster beds, which they destroy by smothering the oysters.

Popularity of the mussel among growers

Mussels follow oysters as molluscs favoured by aquaculturists being prolific, sturdy and fast-growing shellfish which produce more protein per hectare than any other animal and an abundance of vitamins and minerals.

Preparation

Cleanliness of export mussels is ensured by deposition in a weak solution of sodium hypochlorite for 48 hours, this practice is enforced by law. Since mussels will accumulate pathogens and noxious chemicals, suspension in pure water for several days (depuration) is advisable before any processing.

Preparation is usually more involved than that for oysters; after cleaning the shells, removing the byssal threads and steaming, the meat may be preserved by being frozen, smoked, then bottled or canned in oil or brine.

15.2.4 Scallops

Since the disastrous result of scallop harvesting in the 1987-88 season, which was prematurely closed to protect juveniles and the remnants of adult stocks, only exploratory and very limited commercial and recreational harvesting has been sanctioned. The opening of the 1991 season brought no prospect of a resurgence in the industry.

Surveys conducted by DoSF and CSIRO have revealed the need for supplementary seeding of scallops from commercial sources; in wild fisheries, natural replenishment of stock is variable and commercial viability has been elusive.

The Channel remains closed

Commercial operations were closed in the D'Entrecasteaux Channel in 1991. However, numbers of Doughboy Scallops (*Chlamys asperimus*) and Queen Scallops (*Equichlamys bifrons*) have increased greatly, showing that the annual limited recreational dive has not depleted numbers.

Bass Strait

Bass Strait has also given few rewards to the few scallop fishers who have ventured there in 1991.

Reasonable catches were being made on newly-discovered beds to the east and west of

15.6 FISHERIES UNIT VALUE, TASMANIA

<i>Species</i>	<i>Unit value 1988-89 (\$/kg)</i>	<i>Unit value 1990 (\$/kg)</i>
Fin fish —		
Australian Salmon	0.78	0.87
Atlantic Salmon	15.00	12.00
Dory	0.96	0.94
Flathead	1.06	1.38
Flounder	3.94	4.49
Grenadier	1.35	0.63
Jack Mackerel	0.15	0.18
Morwong	0.96	0.98
Orange Roughy	1.94	1.18
Rainbow Trout	10.00	10.00
Shark	3.62	3.38
Snoek (Barracouta)	0.72	0.72
Trevalla	5.35	3.85
Trevally	1.20	1.23
Trumpeter	3.01	2.48
Tuna	2.47	3.49
Whiting	1.00	1.17
Crustaceans —		
Southern Rock Lobster	14.71	17.54
Molluscs —		
Abalone	16.24	16.96
Pacific Oyster	4.00	6.34
Sea Urchins	14.43	14.89

Deal Island, though the continued viability of these fisheries is not assured.

Research activities

Population monitoring, surveys and searches for viable new beds continue. Small beds, limited in population (especially of juveniles and those of brood-stock age), have been found but are of little commercial significance.

Bass Strait and D'Entrecasteaux Channel are still being surveyed to determine what level of fishing will be tolerated by the resources there.

SERP (Scallop Enhancement Research Program), a five-year co-operative venture between Tasmania and the Japanese Overseas Fisheries Cooperation Foundation, continued to yield useful scientific and commercial results. At the outset, Japan helped to fund SERP (to the extent of \$2 million) besides providing expertise and personnel. Tasmania contributed \$1 million as well as scientific expertise.

An additional \$50 000 grant has been received recently from the Commonwealth for

extensions to SERP's facility at Triabunna, where culturing of juveniles and cage-culturing to market size of more mature scallops has expanded greatly.

Scallop bed re-seeding with wild and cultured spat was the original aim. The Great Oyster Bay-Mercury Passage region between Marion Bay and Coles Bay was chosen for this purpose. However, collection of spat in 1987-88 was unsuccessful. Consequently, greater use of hatchery-produced spat allowed re-seeding of the sea bed of Great Oyster Bay with one million juveniles from June 1989.

Within five years, this maricultural venture will return \$50 million a year, increasing to an estimated \$125 million per year if Statewide expansion follows.

In 1990, five million spat were released onto re-seeding areas near Triabunna, three million spat having been grown in cages for this project. In the 1991 season, 50 million scallop spat were caught. In the first three-year term of SERP, 11 million scallops were re-seeded in Great Oyster Bay.

A company representing fishers from St Helens, Bicheno, Triabunna and Hobart are involved in this labour-intensive project, which has created about 60 casual jobs at the Triabunna base and promises to require more personnel at St Helens and Bicheno when expansion takes place.

Private aquaculture

The Tasmanian Fishing Industry Council urged that development be extended with caution; that ventures be Tasmanian-owned and co-operatives on the Japanese model should be rejected.

Formation of a Scallop Husbandry Ministerial Advisory Committee (SHMAC) has been endorsed by the Minister for Primary Industry. Participation by industry groups will be sought as well as input by the Japanese experts and local scientists of SERP.

A two-phase program overseen by SHMAC is envisaged, in which five years of spat collection and re-seeding is to be undertaken as phase one by the proposed five regional groups to be constituted: Great Oyster Bay, D'Entrecasteaux Channel, Norfolk Bay, Bicheno and St Helens. Phase two would be commercial in orientation.

15.2.5 Other Molluscs

Octopus and Squid

Octopus-harvesting may be beneficial to the Southern Rock Lobster industry because the octopus, a very energetic predator of shellfish, is known to be partial to crustaceans as well as other molluscs. Squid also share this taste for fellow molluscs and crustaceans.

Sea urchins

Possible aquaculture or mariculture of sea urchins has been investigated. It is known that, given an adequate diet of appropriate seaweeds, sea urchins will tolerate life in tanks for extended periods and even flourish in captivity.

15.3 CRUSTACEANS

15.3.1 Southern Rock Lobster

Production decreased by 15 per cent to 1600 tonnes in 1990. However, the average price paid to fishermen rose during the year which meant that the value of the catch increased marginally from \$27.2 million in 1988-89 to \$27.5 million in 1990.

Although the catch represents only three per cent of total Tasmanian catch weight, Southern Rock Lobster contributed nearly 18 per cent of the gross value of all fisheries.

15.7 SOUTHERN ROCK LOBSTER, TASMANIA

Item	1987-88	1988-89	1990
Landed Weight (tonnes)	1 803	1 850	1 566
Value (\$m)	29.2	27.2	27.5
Unit value (\$/kg)	16.19	14.71	17.54

15.3.2 Crabs

While not vital to Tasmania's fishing industry, crabs may be a useful secondary catch. Annual catches have averaged one tonne or less, returning between \$3 and \$4 per kilogram.

15.4 WILD FINFISH

Three oceans, the Indian, Pacific and Southern, contribute at least 80 species to the 125 or so offshore species and about 230 in-shore species common about Tasmania. On the other hand, there are only 17 freshwater species, including indigenous and introduced species.

Tasmanian waters

Tasmania's fishery region is that area south of latitude 39 degrees 12 minutes within 200 nautical miles of the Tasmanian coast.

Despite the dominating contributions of crustaceans and molluscs to Tasmanian fisheries, catch sizes and the economic value of wild finfish are still substantial.

In 1990 the landed weight of wild finfish taken from Tasmanian waters was 19 618 tonnes, nearly 34 percent of the total catch from all fisheries including the South East Trawl. The value of the catch in 1990 was \$15.5 million, 10 per cent of the total value of all fisheries.

The Tasmanian Fishing Region's (TFR) fish species can be classified as originating from one of three general areas: inshore, nearshore and offshore.

15.4.1 Inshore Fisheries

Estuarine

Where the sea and rivers meet in estuaries a very specialised environment is formed, unfavourable to most ocean species beyond the point where oncoming fresh water too heavily dilutes the salt water. About a dozen fish species favour estuarine conditions, few of which are sought commercially.

Coastal

The catch landed in Tasmania from the inshore fishery dropped by 17 per cent to 852 tonnes in 1990.

The most valued inshore species are the Australian salmon. Of the two common species of Australian salmon, the Eastern Australian Salmon (*Arripis trutta*) is the only species important to Tasmanian fishers.

The Eastern Australian Salmon, which spawns at sea, forms into huge schools in

January off the New South Wales and Victorian coasts to undertake the annual migration to Western Australia. These massive schools are spotted from the air and are reported to the fleet. The quantity of Australian salmon landed in Tasmania in 1990 was 526 tonnes (16 per cent more than in 1988-89) and was worth \$455 000.

The yield of Garfish, another significant inshore species, increased by 73 per cent to 119 tonnes valued at \$309 000 in 1990.

15.4.2 Near-Shore Demersal Fisheries

These fisheries regularly produce a significant portion of the total catch from the TFR.

In 1990 Near-Shore Demersal fisheries supplied 18 279 tonnes or 36 per cent of the region's total catch. The catch was valued at \$12.8 million, 25 per cent of the total value of fish from the TFR. Important commercial species include Jack Mackerel (*Trachurus declivis*), shark and skate.

Jack Mackerel

The 1990 catch of Jack Mackerel was 13 700 tonnes, 64 per cent more than in 1988-89. The value of production doubled from \$1.2 million in 1988-89 to \$2.4 million in 1990.

Although the dark, oily flesh of the Jack Mackerel is not appreciated here, large quantities are canned, smoked, pickled, or processed into pet food. After large harvests of 37 682 tonnes in 1987-88 only 8150 tonnes were landed in 1988-89.

The failure of the 1988-89 season was attributed to a cyclic environmental phenomenon related to El Nino, which discouraged the formation of large schools of near-surface krill and caused the Jack Mackerel to hunt Lantern Fish at inaccessible depths.

Shark and skate

Shark and skate, although their landed weight does not compare with that for Jack Mackerel, have returned far more financially in recent years than has Jack Mackerel.

While in 1986-87 shark and skate earned barely half the return from Jack Mackerel the situation has now reversed. In 1990 the landed value of shark and skate was \$7.2 million, over three times the value of Jack Mackerel. Skates

and rays, not regarded as commercial fish until recently, are very popular overseas.

Sharks and rays, unlike Teleosts (bony fish), have skeletons of cartilage, causing them to be classed as Chondrichthyes (cartilaginous fishes). Another distinguishing feature is the array of five to seven uncovered gill slits which on sharks lie at the side of the head. On rays they are situated underneath.

Among the most widely distributed of all marine life, sharks inhabit waters down to at least 2000 metres, from mid-ocean to shallow coastal waters, even penetrating deep inland into fresh water. In size they extend from less than a metre to 15 metres for whale sharks, the largest fish of all.

Although many shark species are voracious carnivores, particularly some of the more active large species, the very largest of all, the basking shark and whale shark, are plankton eaters. Other species favour molluscs or crustaceans, for which their flat grinding teeth are appropriate.

Other near-shore commercial shark species include the Tasmanian Tiger Shark (*Notorynchus cepedianus*), not known to be dangerous to humans, White Pointer Shark (*Carcharodon carcharias*), Blue Pointer Shark (*Isurus oxyrinchus*), School Shark (*Galeohinus australis*), Gummy Shark (*Mustelus antarcticus*), Southern Saw-Shark (*Pristiophorus nudipinnis*), Common Saw-Shark (*P. cirratus*) and Angel Shark (*Squatina australis*).

Silver Trevally (*Pseudocaranx dentex*) has become important in more recent years, catches having increased over five-fold in three seasons. An assured place in the market seems certain because its firm flesh has a sweet, delicate flavour.

Other species fished in this region include cod, some species of dory, trumpeter and flathead, Gemfish, Nannygai, Red Gurnard Perch, School Mackerel, Red Bait, Snoek and Tuna. These species contribute significantly to the industry in good seasons.

15.4.3 Offshore Fisheries

The catch of offshore species in 1990 was 31 341 tonnes valued at \$37.8 million, nearly 62 per cent of the total landed weight and 73 per cent of the total value of the three areas.

Important species

There were 29 332 tonnes of Orange Roughy, worth an estimated \$34.8 million, landed in Tasmania in 1990. This was almost 58 per cent of the aggregated weight and 67 per cent of the total value of the three areas.

Orange Roughy, or Red Roughy (*Hoplostethus atlanticus*), is widely distributed about the world. It is known in the Atlantic, the Mediterranean, off southern Africa, and locally from New South Wales to Tasmania, thence across to New Zealand.

A moderately large fish, weighing over 3 kilograms and reaching at least 50 centimetres in length, it was found in the early 1980s by the research vessel *Challenger* at depths of about 1000 metres off the West Coast, apparently in huge quantities. Its bland and firm white flesh, which keeps well, made it an acceptable fish in the market place.

Problems with fishing

Schools of Orange Roughy generally occur over rough sea beds, making trawling difficult. Another more serious hazard, relating to conservation of the species, is that the winter spawning schools do not disperse when fishing continues. This allows over-fishing of schools with consequent depletion of breeding stocks.

As conservation measures, a ban was placed on the St Helens spawning schools from August 1989 to April 1990 together with a total allowable catch of 15 000 tonnes for the East Coast during the fishing year ending 30 April 1990. As the fishery yielded almost no fish, this latter precaution seems too late.

Deep-Sea Trevalla (*Hyperoglyphe antarctica*), which may weigh 35 kilograms, has been the only species in this region to maintain any consistency recently for quantity landed and return to fishers. The catch landed in Tasmania in 1990 was 340 tonnes valued at \$1.5 million. A dispute between Tasmanian and South-East Trawl (SET) fishers over the taking of this species continued for some time.

Minor species include Blue Grenadier, Flounder and various species of dory. The total weight of offshore dory landed in 1990 was 905 tonnes valued at \$865 000.

15.5 AQUACULTURED SPECIES

Although farmers do not depend on wild plants for any significant part of their crops, fishers traditionally harvest the produce of the sea. However, aquaculture in Tasmania is expanding, contributing to the tonnage and value of annual catches, raising export earnings and providing much needed employment.

Production from the Atlantic Salmon fishery climbed in 1990, with a harvest of 2079 tonnes valued at \$24.9 million. This compares with production of 376 tonnes in 1988-89 worth \$5.6 million.

Production of Rainbow Trout dropped by 41 per cent from 1113 tonnes valued at \$11.1 million in 1988-89 to 662 tonnes with an estimated value of \$6.6 million in 1990.

Pacific Oysters (currently flourishing) and scallops (reviving as a result of re-seeding) are expected to contribute greatly in the future.

Species considered for aquaculture

Stripey Trumpeter and the Tasmanian Flat Oyster both seem to offer large rewards as potential cultured species but are not yet ready for commercial development.

Division of Sea Fisheries

The Division of Sea Fisheries currently has five objectives with respect to development of aquaculture:

- controlled expansion for economic growth and job creation;
- development of new species;
- development of new technologies;
- development of a scallop industry based on re-seeding; and
- legislative amendments necessary to manage the industry more effectively.

Work necessary to implement these objectives includes reviews of rentals and licence fees; drafting of codes of practice; developing data bases; and developing commercial structures and management plans.

For development and well-being of fisheries, important work continues on assessing resources; determining the viability of certain species for culture; providing advice and technical assistance to farmers; researching the feeding of larvae and juveniles; analysing shellfish toxins; investigating fish diseases; and surveying the use of chemicals.

15.6 COMMONWEALTH FISHERIES

15.6.1 The South-East Trawl (SET)

This fishery provided Tasmania's single largest and most valuable landed catch in 1990. The landed weight of fish increased threefold from a catch of 7848 tonnes in 1988-89 to 31 300 tonnes in 1990, whilst the value of fish landed increased from \$14.7 million to \$36.6 million over the same period.

Orange Roughy is the most important species currently available from offshore Tasmanian waters. While fishermen have not located any new grounds around Tasmania the existing areas have provided very large harvests in recent seasons.

Valuable minor species include Morwong, Tiger Flathead, Gemfish, School Whiting and Blue Grenadier.

15.6.2 The Southern Shark Fishery

Over-exploitation of this fishery has been blamed for declining catches. Only 2600 tonnes of shark worth \$12.4 million were taken in 1990-91, compared with 3700 tonnes valued at \$17.7 million in 1989-90.

Because of scientific advice that the fishery was about to collapse biologically, a reduction of about one-third in the number of nets fishers may use was instituted. The current population is said by scientists to be about one-seventh of its initial level, allowing seven years before collapse.

Shark fishers generally agree that fishing levels must diminish but believe that scientific conclusions are too pessimistic.

Official encouragement of over-fishing in order to earn export income, licence fees and revenue, has caused the present desperate situa-

tion, according to the National Fishing Industry Council.

15.6.3 Southern Bluefin Tuna

There were 25 tonnes of Bluefin Tuna valued at \$200 thousand landed in Tasmania in 1990. Long-lining will be encouraged in 1991 by the introduction of 24 chartered overseas vessels to the tuna fishery. It is envisaged that Australian returns could increase, from about \$16 million to an estimated \$64 million, with biological and economic benefits for the fishery.

15.7 LICENSING

Seventeen licences permitting the wide range of activities monitored by Department of Sea Fisheries currently exist.

The most common licence, the Fisherman's Licence (fee \$240 per annum), permits commercial fishing in general, and the selling of fish caught from a licensed fishing boat.

Other licences include the Fishing Boat Licence, Certificate of Competency, Commercial Diving Licence, Commercial Abalone Diver's Licence, Abalone Quota Licence, Commercial Crayfish Pot Licence, Shark Gillnet Licence, Commonwealth Shark Gillnet endorsement; General Commercial Scallop Licence, Special Commercial Scallop Licence, Purse Seine Fishing Licence, Tasmanian Mackerel Fishing Licence, Processing Premises Licence, Exploratory Licence and the Non-commercial Crayfish Licence.

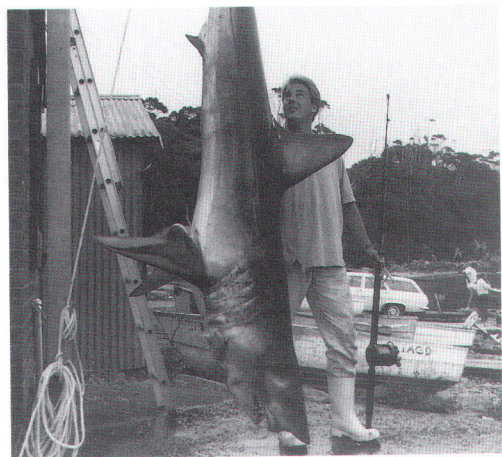


Photo: Michael Dermoudy

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Chapter 16

ENERGY

An elaborate energy efficiency campaign, launched by the Hydro-Electric Commission in April 1990, was received favourably by consumers. This appeal for responsible use of electricity came at a time when protracted near-drought conditions in 1989-90 forced the Commission to operate the expensive oil-fired power station at Bell Bay as the only alternative to power rationing.

Notable events in 1990-91 were consideration of the possibility of inter-connection with the South-Eastern Grid and an investigation into the prospects of bringing natural gas to Tasmania. Incorporation of Tasmania into the S-E Grid would provide increased energy to Tasmania from the mainland at critical periods of great domestic consumption in addition to satisfying the needs of large industrial users.

The search for an alternative to local hydro-based generation has become a priority for the HEC. Ongoing weather patterns unfavourable to hydro-electric generation have resulted in



Bell Bay.

Photo: Tasphoto Services

Tasmania's power supply being supplemented by polluting, oil-burning, steam generators.

16.1 ENERGY CONSUMPTION, BY INDUSTRY, TASMANIA, 1986-87

Type	Amount (terajoules)	Proportion (%)
Electricity	24 402.9	46.0
Automotive petrol	3 147.6	5.9
Automotive diesel	5 281.0	9.9
Liquefied petroleum gases	971.0	1.8
Fuel oil	5 269.9	9.9
Black coal	8 615.2	16.2
Wood	3 980.9	7.5
Other	1 433.3	2.7
Total	53 101.8	100.0

(Source: ABS Catalogue No. 8217.0).

A full-scale feasibility study was commissioned to evaluate natural gas as a proven means of electricity generation. This may provide a way of supplementing and/or replacing existing energy sources.

The Australian Bureau of Statistics conducted a survey of all industries except agriculture to determine the level of energy consumption in the 1986-87 financial year. About 20 000 industrial and commercial establishments were included in the survey. Data was collected on the source of the energy consumed and the purpose for which it was used.

Nationally, the estimate of total energy consumption was 2 790 554 terajoules. The Tasmanian energy consumption component of the national total was 53 102 terajoules, or just under two per cent. Since Tasmania's population represents about three per cent of Australia's, Tasmanian energy usage per capita falls below the national median.

It should be noted that in the estimates of energy consumption by industry an element of double counting exists. Fuels, used to generate electricity, such as coal and natural gas, were counted in the consumption figures for those fuels as well as in the figure for electricity.

Not surprisingly, the Tasmanian pattern of energy consumed differed markedly from the national pattern. Some 46 per cent of energy (24 403 terajoules) consumed in Tasmania was electricity (mostly from hydro schemes). Nationally, only 12 per cent of energy consumed was electricity: the main source of energy was black coal (31 per cent of all energy consumed), followed by natural gas (16 per cent). Of the 856 800 terajoules of energy from black coal, 88 per cent was consumed in the electricity and gas supply industry, primarily for electricity generation.

In Tasmania, black coal accounted for 16 per cent of energy (8615 terajoules), while natural gas was not reported as an energy source used. Other major energy sources were automotive diesel (5281 terajoules) and fuel oil (5270 terajoules), 9.9 per cent each, wood (3981 terajoules or 7.5 per cent) and automotive petrol (3148 terajoules or 5.9 per cent). This contrasts with national consumption figures of only 2.6 per cent for fuel oil and 0.6 per cent for wood.

The manufacturing sector combined with electricity and gas used 72 per cent of all energy consumed by industry in Tasmania during 1986-87. Because the energy consumption figures for certain sectors of those industries are confidential, exact quantities for individual activities are not available.

Around one-fifth of total energy used by the manufacturing industry was used by the paper, paper products, printing and publishing industry class (10 872 terajoules or 20.5 per cent). If the 3084 terajoules energy consumption of the wood, wood products and furniture class (which includes sawn timber and woodchip production) is added, then these two industry groups used about one quarter of the total energy consumed by the manufacturing sector. Nationally, these

16.2 ENERGY CONSUMPTION BY INDUSTRY DIVISION, 1986-87

Industry	Tasmania		Australia	
	Terajoules	%	Terajoules	%
Mining	3 931	7	125 265	4
Manufacturing, electricity and gas	38 099	72	2 182 501	79
Water, sewerage and drainage	144	..	7 083	..
Construction	818	..	35 140	1
Wholesale trade	1 060	2	30 189	1
Retail trade	1 131	2	45 212	2
Road transport	2 143	4	76 574	3
Rail, water, air and other transport	1 420	3	118 891	4
Storage and services to transport	374	1	13 212	..
Communication	150	..	6 840	..
Finance, property and business services, and public admin.	1 102	2	60 618	2
Community services, recreation, personal and other services	2 730	5	89 028	3
Total	53 102	100	2 790 554	100

(Source: ABS Catalogue No. 8217.0).

two industry classes used only two per cent of the total energy consumed by manufacturing.

Other major manufacturing energy users in Tasmania were food, beverages and tobacco (2685 terajoules or 5.1 per cent) and cement, concrete and other non-metallic products (2211 terajoules or 4.2 per cent).

Other principal industry consumers of energy were mining (seven per cent of total energy consumption); community services, recreation, personal and other services (five per cent); and road transport (four per cent).

Major non-manufacturing industrial users of electricity include the mining sector (1468 terajoules) and community services, recreation, personal and other services (1572 terajoules). The road transport sector consumed 34 per cent of the 5281 terajoules of automotive diesel fuel used by industry in Tasmania and only eight per cent of the automotive petrol used.

16.3 AVERAGE WEEKLY HOUSEHOLD ENERGY EXPENDITURE, TASMANIA (\$)

	1988-89	1984
Average weekly household income	541.32	392.47
Household fuel and power -		
Electricity (selected dwelling)	12.10	8.81
Electricity (other dwelling)	0.19	0.13
Total electricity	12.28	8.94
Mains gas	0.08	0.09
Bottled gas	0.48	0.53
Total gas	0.56	0.62
Heating oil	0.52	0.48
Kerosene and paraffin	0.03	0.10
Wood (for fuel)	0.55	0.76
Fuels n.e.c.	n.a.	n.a.
Total other fuels	1.10	1.35
Total fuel and power	13.95	10.91
Motor vehicle fuel, lubricants and additives -		
Petrol	21.70	15.98
Diesel fuel	0.23	0.12
LPG and other gas fuels	n.a.	n.a.
Oils, lubricants and additives	0.74	0.32
Total	22.72	16.43

(Source: ABS Catalogue No. 6535.0).

In 1987-88, Tasmania produced 404.8 kilotonnes of washed black coal, while in 1988-89 production dropped to 356.3 kilotonnes. In the 1986-87 industry energy survey, the Australian Bureau of Statistics estimated that one tonne of Tasmanian black coal would provide 22.8 gigajoules of energy.

Gas is only a minor energy source in Tasmania, though production continues to increase. Town gas is manufactured and reticulated in Launceston only. In 1990-91, Tasmania produced 68 million megajoules of gas (available for issue through the mains). Bottled LPG is a minor domestic, commercial and motor fuel in the State.

16.1 HOUSEHOLD ENERGY EXPENDITURE

The 1988-89 Household Expenditure Survey (HES) estimated that Tasmanian households spent an average of \$13.95 a week on household fuel and power (2.6 per cent of average weekly household income) and \$22.72 a week on motor vehicle fuel, lubricants and additives (4.2 per cent of average weekly household income). This compares with estimates for Tasmanian households from the 1984 HES of \$10.91 (2.8 per cent) for household fuel and power and \$16.43 (4.2 per cent) for motor vehicle fuel, lubricants and additives.

In Hobart, where 1988-89 average weekly household income was estimated at \$557.73, \$14.28 was spent on household fuel and power and \$19.31 on motor fuel, lubricants and additives. This compares with estimates from the 1984 HES of \$11.58 and \$18.46 respectively, from an average weekly household income of \$443.34.

16.2 PETROLEUM PRODUCTS

The total sales of petroleum products in Tasmania in 1990 was 1074.2 megalitres or 2.8 per cent of all Australian sales. (Tasmania has 2.7 per cent of the Australian population).

In 1990, sales of petrol (leaded and unleaded) reached 43.3 per cent. Nationally, petrol sales made up 44.3 per cent of all petroleum products.

16.4 FRANCHISE LICENCE FEES, TASMANIA, (\$m)

Year	Petrol	Automotive diesel	Total
1985-86	13.3	3.2	16.5
1986-87	29.4	7.1	36.5
1987-88	29.6	7.6	37.2
1988-89	30.2	8.0	38.2
1989-90	30.8	8.6	39.4

(Source: Petroleum Gazette 1990/2 and 1991/2).

Unleaded petrol sales accounted for 23.4 per cent (108.9 megalitres) of all petrol sales in Tasmania, showing the steady increase in its use from 1985 when it was introduced.

Between 1989 and 1990 there was a 1.7 per cent rise in sales of petrol in Tasmania. Total sales of all petrol in 1989 were 457.8 megalitres and 465.6 megalitres in 1990. Nationally, petrol sales decreased 0.5 per cent from 17 239 megalitres to 17 148 megalitres over the same period.

Petrol and automotive diesel sales are substantial revenue earners for the State government. Since 1984-85, franchise fees levied on petrol and automotive diesel sales have provided a massive 183.4 per cent increase in revenue to the Tasmanian government.

16.3 ELECTRICITY

Tasmania's electricity requirements are provided by the Hydro-Electric Commission from a system based almost entirely on hydro installations. The total installed generator capacity at June 1991 was 2.315 million kW, of which 90 per cent (2.075 million kW) was supplied by the hydro network. Total capacity has remained unchanged for four years following a boost in hydro-generated capacity from 1.931 million kW to 2.075 million kW in 1986-87, an increase of 7.5 per cent. An oil-fired thermal station of 240 000 kW is located at Bell Bay. Its capacity has not changed at this time.

16.3.1 Supply and finance

In 1990-91, total energy generated was 9026 GWh, an increase of 5 GWh (0.6 per cent) on the figure for 1989-90. External suppliers fed 4347 MW hours into the HEC system in 1989-90. Total energy sales for the financial year 1990-91 amounted to 8404 GWh, an increase of 101 GWh (1.2 per cent) on the 1989-90 period.

During 1990-91, the net number of HEC customers connected to the HEC system rose by 5114 (about two per cent) to 224 283. The HEC's share of the Tasmanian energy market

16.5 CONSUMPTION OF PETROLEUM PRODUCTS, TASMANIA

Product	1990		1989	
	Megalitres	Per cent	Megalitres	Per cent
Liquefied petroleum gas	1.1	0.1	1.6	0.1
Aviation gasoline	3.1	0.3	3.7	0.4
Petrol (leaded and unleaded)	465.6	43.3	457.8	52.4
Aviation turbine fuel	32.1	3.0	27.5	3.1
Lighting and power kerosene	1.4	0.1	1.8	0.2
Heating oil	13.0	1.2	15.2	1.7
Automotive diesel fuel	270.2	25.2	262.3	30.0
Industrial/marine diesel fuel	—	—	2.3	0.3
Fuel oil	261.3	24.3	72.4	8.3
Lubricants	10.4	1.0	12.7	1.5
Bitumen	15.6	1.5	16.4	1.9
Other	0.4	—	0.5	0.1
All products	1074.2	100.0	874.0	100.0

(Source: Petroleum Gazette 1990/2 and 1991/2).

16.6 ELECTRICITY CONSUMERS, TASMANIA

Consumers	Number	
	1990-91	1989-90
Residential	182 340	178 291
Public utilities	4 902	4 885
Industrial	18 596	18 037
Commercial	16 531	16 138
Major industrial	21	21
Miscellaneous	1 893	1 797
Total	224 283	219 169

(Source: HEC Annual Reports).

rose from 36.4 per cent at 30 June 1989 to 37 per cent at 30 June 1990.

Trading income for 1990-91 was \$428.6 million, an increase of seven per cent over the figure for 1989-90 of \$401.6 million. The net loss for the year was \$15.2 million while 1989-90 returned a net profit of \$1.5 million.

An increase in retail tariffs, together with continued small growth in energy consumption, contributed to an increase of 12.4 per cent in income from the retail sector in 1990-91. Income rose from \$235.1 million in 1989-90 to \$264.3 million in 1990-91.

Income from the major industrial users decreased 0.2 per cent from \$125.9 million in 1989-90 to \$125.6 million in 1990-91.

16.7 ELECTRICITY SALES, TASMANIA (million kWh)

Purpose	1990-91	1989-90
Residential	871.3	955.1
Industrial	578.9	572.7
Hot water	604.4	567.4
Off-peak	267.5	242.8
Lighting	n.a.	n.a.
Commercial	610.8	411.3
Bulk commercial	20.7	61.8
Major industrial	5 396.0	5 440.3
HEC use, unread meters	54.0	51.7
Total	8 403.7	8 303.1

(Source: HEC Annual Reports).

16.3.2 Water Storage

Total water storages at the end of both 1990-91 and 1989-90 were 24.3 per cent of the amount required for full energy production. Although the energy potential of some water storages increased in 1990-91 others diminished considerably.

The total energy equivalent in HEC water storages was 3505 gigawatt hours at 1 July 1991. This compares with 3496 gigawatt hours the previous year.

Because of the continuation of long-term, lower than average rainfall, Tasmania's major hydro catchments are at levels similar to those of late 1966, just prior to the disastrous 1967 bush fires. Lake Gordon in the Southwest is able to produce only 21 per cent of its full energy potential as is Lake King William. Despite the general low level of water in catchments, power continues to be available for 99.95 per cent of the year.

The HEC had to fire up its generators at Bell Bay throughout 1989-90 and 1990-91. Although it cost over \$83 million this measure was considered preferable to the introduction of power rationing.

Bell Bay can supply 20 per cent of the State's power needs but uses more than 30 000 tonnes of fuel each month, at a cost of \$2 million a week. Low-sulphur fuel for the power station is shipped from the United States and stored at the 45 000 tonne storage tanks at Bell Bay. Cloud-seeding reduces dependence on Bell Bay to a considerable extent.

16.3.3 Operating Expenses

In 1990-91 total operating expenses increased by 36.8 million to 186.7 million, an increase of 24.5 per cent on the previous year's total. Financial charges decreased by 3.4 per cent.

During this period \$157.2 million was spent on capital works bringing the total capital expenditure to date to \$2524.4 million. In 1989-90, \$129.4 million was spent on capital works. This resulted in a total capital expenditure as at 30 June 1990 of \$2367.2 million, up from \$2237.9 at 30 June 1989.

Overseas borrowings in foreign currencies have been eliminated (external borrowings have generally been reduced) thus cutting a large interest burden.

16.8 POWER STATION OUTPUT (excluding King and Flinders Islands)

Power station	Energy (MW.h)		Average load (MW)		Peak load (MW)	
	1990-91	1989-90	1990-91	1989-90	1990-91	1989-90
Waddamana	4 132	4 171	0.5	0.5	20.2	20.4
Butlers Gorge	65 816	45 823	7.5	5.2	10.5	8.9
Tarraleah	600 530	448 171	68.6	51.2	91.0	91.0
Lake Echo	24 524	98 057	2.8	11.2	34.0	34.2
Tungatinah	378 254	466 005	43.2	53.2	132.5	132.5
Liapootah	392 226	343 702	44.8	39.2	87.0	87.0
Wayatinah	240 730	207 534	27.5	23.7	44.5	43.5
Catagunya	210 047	178 146	24.0	20.3	48.0	48.0
Repulse	135 614	113 391	15.5	12.9	33.0	32.0
Cluny	82 058	67 665	9.4	7.7	20.0	19.0
Meadowbank	162 085	131 537	18.5	15.0	42.0	42.0
Poatina	1 088 243	1 889 200	124.2	215.7	342.0	345.0
Trevallyn	392 452	528 155	44.8	60.3	83.0	83.0
Tods Corner	8 582	12 717	1.0	1.5	1.5	1.5
Fisher	201 305	192 803	23.0	22.0	46.0	47.0
Rowallan	39 687	31 114	4.5	3.6	11.0	10.8
Lemonthyme	278 076	242 701	31.7	27.7	58.0	58.0
Wilmot	117 458	106 132	13.4	12.1	33.0	33.0
Cethana	385 601	327 166	44.0	37.3	100.0	100.0
Devils Gate	279 707	244 029	31.9	27.9	66.0	66.0
Paloona	121 837	106 656	13.9	12.2	32.5	32.0
Gordon	1 045 699	1 189 063	119.4	135.7	354.0	360.0
Bell Bay (thermal)	992 455	714 586	113.3	81.6	242.0	241.0
Mt Lyell	5 070	279	0.6	—	6.8	5.0
Mackintosh	373 967	265 621	42.7	30.3	91.0	89.0
Bastyan	391 809	279 098	44.7	31.9	82.0	81.0
Reece	1 008 020	787 585	115.1	89.9	240.0	234.0
Total system	9 025 984	9 021 107	1 030.4	1 029.8	1 445.0	1 427.3

(Source: HEC Annual Reports).

16.3.4 Major Construction Projects

During 1991 construction work continued on the King River and the Anthony power developments, both on Tasmania's West Coast. Capital expenditure on the two undertakings totalled over \$124 million in 1990-91, an increase on the \$101 million expenditure of 1989-90.

To take into account the availability of capital and a lower load forecast, the Commission had reprogrammed the completion dates of the King River scheme to May 1992 and the Anthony scheme to mid-1994. However, it is now estimated that the King River scheme will be completed in 1992-93, while Anthony may continue to 1994-95.

King River Power Development

In 1989-90, 800 000 cubic metres of rock fill and gravel was placed at the Crotty dam site. Tunnel spoil and gravel from the gravel floor provided this material. The clearing of the Lake Burbury area continued on schedule during 1989-90, when 65 per cent was completed.

At the King River Power Station, the superstructure was completed in 1990; preparations for the installation of the turbine continued, the spiral casing was assembled, tested and embedded in concrete.

The creation of Lake Burbury meant that the Lyell Highway had to be diverted. It was

re-routed to cross the lake at its narrowest point, where a major new bridge will span the lake. Six reinforced concrete piers were constructed in mid-June 1990, on time and under budget mainly because of purpose-built formwork.

Anthony Power Development

At the Henty Dam, the final concrete pour was completed in May 1988 and the diversion closure took place in July 1988. Water was diverted to Lake Murchison via the Henty Canal and the Anthony River for the Pieman River Power Development.

The Henty Canal is also receiving water from the newly completed White Spur Dam and Canal. Tunnelling for access to the Anthony underground power station concluded in 1990, and the seven kilometre-long Anthony headrace tunnel was excavated to the 1200-metre mark by mid-1990.

The Newton Dam was completed in 1990, the diversion tunnel being closed in mid-October 1989. At Newton Creek, the pump station building was completed, commissioned and handed over.

16.10 HYDRO-ELECTRIC COMMISSION CAPITAL EXPENDITURE (\$m)

<i>Project</i>	<i>1990-91</i>	<i>1989-90</i>
Anthony Power Development	41.86	40.62
King River Power Development	82.37	60.60
Gordon Power Station No. 3 machine	—	—
Bass Strait islands reticulation	0.39	0.38
Power station extensions	3.39	1.37
Substations	0.82	1.04
Transmission lines	6.82	3.98
Distribution systems & services	21.28	21.79
Sundry buildings	4.00	0.91
Stores, general plant etc.	1.51	3.69
Construction equipment	-5.22	-5.03
Total	157.21	129.35

(Source: HEC Annual Reports).

16.3.5 Future Expansion

Annual load growth has fluctuated markedly in recent years. There have been shifts between high and low growth in both the major industrial and retail sectors. State population growth is slow and unemployment relatively high. These factors, together with higher foreign exchange rates and high interest rates, have created an economic climate in which industry is having

16.9 HEC WATER STORAGES AT 1 JULY

	<i>Useful water in storage (megacubic metres)</i>		<i>Energy equivalent (gigawatt hours)</i>		<i>Proportion of full energy (per cent)</i>	
	<i>1991</i>	<i>1990</i>	<i>1991</i>	<i>1990</i>	<i>1991</i>	<i>1990</i>
Lake Augusta	9	2	19	4	43	9
Great Lake	615	719	1 310	1 531	20	23
Arthurs Lake	108	151	192	268	26	37
Lake St Clair	161	159	216	214	82	81
Lake King William	112	126	152	171	21	24
Lake Echo	233	167	407	292	46	33
Tungatinah	35	27	47	37	42	32
Lake Mackenzie	12	4	27	9	61	20
Lake Rowallan	48	20	46	19	40	16
Lake Pedder	106	172	40	64	25	41
Lake Gordon	2 634	2 132	983	787	21	17
Lake Murchison	47	49	25	26	75	79
Lake Mackintosh	78	141	41	74	28	52
Total	4 198	3 869	3 505	3 496	24.3	24.3

(Source: HEC Annual Reports).

16.11 HEC FORECAST EXPANSION, TASMANIA (MW)

Year	1995	2000
Average load	1 160	1 227
Peak load	1 598	1 691

(Source: HEC Annual Report 1989).

difficulties reaching decisions about new developments.

Under these conditions an annual load growth of between one and two per cent would be a reasonable forecast. The Commission reviewed its long-term load forecast during the 1987-88 year. However, at this stage there is insufficient evidence to upgrade the previous forecasts and overall it remains unchanged.

Investigation of future power scheme options is an ongoing function. Investigations continued to define the cost and scope of such hydro-electric options as the Lower King, Que, Lake Augusta and King Racelines, and potential redevelopment of old existing schemes at Tarraleah and Lake Margaret. Current attitudes indicate that the era of new large dams in Tasmania has concluded.

Analysis continued on the costs of energy production from a range of options including thermal, wind and wave power. Also considered were the prospects of improving the efficiency of the system by reducing generation and transmission losses.

Energy Planning

The Hydro-Electric Commission continued investigation of the State's energy resources during 1990.

Priority has been given to the means of reducing the extent to which the State is dependent on imported liquid fuels.

Two discussion papers, *Liquid Fuels from Oil Shale in Tasmania* and *Liquid Fuels from Oil-seed in Tasmania*, cover the use of local resources as possible sources of transport fuels.

A discussion paper on *Demand for Firewood for Domestic Use in Tasmania* complements an earlier report on *Energy from Wood in Tasmania*. These may be used to form the basis for

policies which will improve the reliability and cost stability of firewood supplies in the State.

A further discussion paper *Battery-Powered Electric Vehicles in Tasmania*, issued during 1989, has contributed to the discussion of electric-powered automobiles and commercial vehicles as complementary to oil/diesel-powered vehicles and/or as possible replacements in the future.

The HEC Energy Advisory Centre has conducted a Government Energy Management Program which has reduced electricity costs in State government buildings by about \$3.2 million annually (from the base year 1981-82).

The HEC has become involved in energy audits at large companies, including Pasminco-EZ at Risdon, and in smaller businesses. The audit involves a survey of what power a firm uses, how it is used and how it could be used more efficiently.

An energy efficiency campaign, launched in April 1990 under joint Government-HEC sponsorship, proved very successful with consumers, from domestic users to major industrial clients of the HEC. At least one significant conservation measure was undertaken by 57 per cent of all Tasmanians, attributable in part to an effective television campaign.

The Commission continued to represent the State on a number of national bodies concerned with energy matters. These include the National Advisory Committee, the National Fuels Emergency Consultative Committee, and the National Oil Supplies Advisory Committee.

16.4 RESEARCH

The Hydro-Electric Commission, together with research institutions such as the University of Tasmania, is involved in ongoing energy research programs. These programs have looked at ways of improving the efficiency of energy use in Tasmania as well as alternative sources of energy.

HEC programs have investigated wave, wind and solar power as alternative energy options; evaluated industrial wood-fired energy systems; monitored the performance of domestic heat pumps and collected and analysed data on

distribution load patterns for transformer substations and on individual domestic residences.

Environmental problems experienced by customers may be solved, often simply and cheaply, by seeking advice from the HEC's experts. The output of 'greenhouse' gases is reduced considerably by the hydro-electric generation of electricity.

Wave Power

Several years ago, following discussion and exchange of information with several organisations, the HEC received three proposals for the construction and operation of a wave power plant on King Island.

After some years' research and negotiations, arrangements were finalised with a Norwegian company, Norwave, to study the feasibility of the construction of a wave power plant on the island. If built, the plant will be a first for Australia and will supply a considerable part of the island's electrical energy requirements.

The proposed development would be similar to one built on the west coast of Norway. Wave energy is used to lift sea-water up a tapered concrete channel into a small reservoir. From here it is released through a hydro-electric power station back into the sea.

Tidal Power

To harness the power of tides, large barriers need to be built across tidal estuaries and bays. Reversible flow turbines make use of incoming and out-going tides. An average of about eight megawatts could be obtained by harnessing the tidal power of the Tamar Estuary.

Wind Energy

The performance of the operational privately-owned wind turbine now operating on Flinders Island is being monitored as part of the HEC's continuing wind power studies.

Problems associated with generating electricity from wind relate mainly to lack of control over when the wind blows. Electricity is not produced on still days. Large areas of land are needed for wind farms, and some people object to their appearance and the noise they make. Despite these problems, wind turbines are now cheaper than other ways of generating power in some remote areas.

Data Loggers

These units, developed within the HEC to help measure customer load patterns, are also proving useful in other areas.

Gathered data is being used as a basis for simulating loads on distribution transformers. This will result in better use of feeder and transformer capacity. In 1990, 275 customers had data loggers installed at their premises to measure energy use under the different tariffs.

Natural Gas Power Station

A new power station, using natural gas from the Yolla gas and oil field, is being considered for the North-West Coast. The Yolla field, discovered several years ago, is 90 kilometres north of Burnie. If built, the new station is likely to be sited near Burnie and cost more than \$150 million. The Yolla field is rich in light oils, enough to meet 40 per cent of the State's petroleum and 140 per cent of its LPG requirements.

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Chapter 17

MANUFACTURING

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Chapter 17

MANUFACTURING

Despite a decline in relative importance over the past decade, manufacturing remains one of the main contributors to the Tasmanian economy. It accounts for almost 20 per cent of the State's gross domestic product at factor cost, second to the government-dominated public administration, defence and community sector. Manufacturing employs around 17 per cent of Tasmania's employees.

Since 1977-78 the value added by manufacturing has risen from \$18 470 per employee, to \$50 750 per employee in 1986-87. This is 25 per cent more than the increase paid in wages and salaries, indicating increased productivity over the period.

17.1 KEY AGGREGATES PER EMPLOYEE: MANUFACTURING (\$)

Year	Wages and salaries	Turnover	Value added
1977-78	9 580	46 210	18 470
1978-79	10 210	53 770	21 080
1979-80	11 400	63 310	24 990
1980-81	13 060	70 380	26 890
1981-82	14 340	73 540	27 630
1982-83	16 100	81 730	28 860
1983-84	16 910	90 640	34 200
1984-85	18 090	98 920	38 290
1986-87 (a)	21 640	125 380	50 750
1987-88	22 700	130 600	n.a.
1988-89	24 100	142 400	n.a.

(a) No census 1985-86; 1986-87 was the latest year of full manufacturing census.

(Source: ABS Catalogue No. 8221.6.)

Over the same interval, turnover per employee has increased by 171 per cent from \$46 210 to \$125 380. This figure rose to \$142 400 in 1988-89.



The Froe Range of furniture.

Photo: Uffe Schultz of Concept Photographics

Over the period, employment in the Tasmanian manufacturing industry has fallen by nine per cent, from 27 000 to 24 800 in 1987-88. Since 1982-83 the downward trend in employment levels appears to have stabilised at around the 24 400 persons level. The fall in employment levels has been general across all divisions. For 1988-89 there was an increase of eight per cent (26 933) on last year's employment figure (24 828).

17.2 EMPLOYMENT IN MANUFACTURING (a)

Year ended 30 June	At 30 June	Average over the whole year
1984	24 692	24 497
1985	24 573	24 494
1987	24 371	24 327
1988	r 24 828	n.a.
1989	26 933	n.a.

(a) Excludes establishments employing fewer than four persons.

(Source: ABS Catalogue No. 8221.6).

17.1 MANUFACTURING ACTIVITY

Three industry subdivisions account for the lion's share of manufacturing in Tasmania: food and beverages; wood, wood products and furniture; and paper, paper products, printing and publishing. Together they account for over 60 per cent of manufacturing turnover and just over 57 per cent of all employment in the sector.

17.3 MANUFACTURING ACTIVITY (a) BY INDUSTRY SUBDIVISION, TASMANIA

ASIC subdivision	1988-89		1986-87
	Employment ('000)	Turnover (\$'000)	Value added (\$m)
Food, beverages and tobacco	6.5	1 003.0	289.2
Textiles	1.4	119.8	n.p.
Clothing and footwear	0.7	28.6	13.5
Wood, wood products and furniture	3.9	522.7	163.6
Paper, paper products, printing and publishing	5.0	796.1	326.8
Chemical, petroleum and coal products	n.p.	n.p.	n.p.
Non-metallic mineral products	0.9	158.0	48.4
Basic metal products	n.p.	n.p.	n.p.
Fabricated metal products	1.9	185.4	51.7
Transport equipment	1.2	56.2	25.8
Other machinery and equipment	0.9	79.1	30.7
Miscellaneous manufacturing	0.6	51.2	17.1
Total	26.9	3 834.7	1 236.5

(a) Excludes establishments employing fewer than four persons.

(Source: ABS Catalogue No. 8221.6).

In 1988-89, the food, beverages and tobacco subdivision accounted for over 23 per cent of manufacturing employment. Vegetable processing, abattoirs and meat processing, brewing and confectionery are the main manufacturing activities within this subdivision.

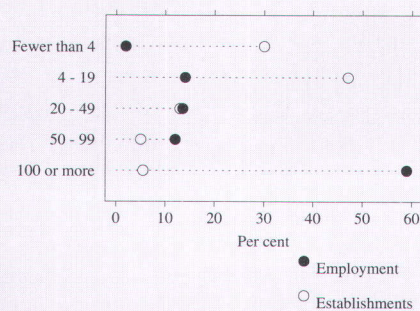
The paper, paper products and printing subdivision accounted for almost 19 per cent of employment in the manufacturing sector, but employment in this subdivision was dominated by paper manufacture; 62 per cent of all employment is in paper manufacture.

The wood, wood products and furniture subdivision was appreciably smaller in terms of employment and turnover. As with the other two subdivisions, there is a concentration on particular industries, in this case on sawmilling, timber and woodchips.

17.2 CONCENTRATION OF MANUFACTURING

Manufacturing in Tasmania is dominated by a few large manufacturing establishments. In 1989, five establishments (less than one per cent of the total establishments) accounted for 23 per cent of persons employed at 30 June 1989, 32 per cent of wages and salaries paid during 1988-89 and 34 per cent of manufacturing turnover.

MANUFACTURING INDUSTRY, TASMANIA, 1988-89
DISTRIBUTION OF EMPLOYMENT AND ESTABLISHMENTS
BY EMPLOYMENT SIZE GROUP



17.1.1 Food and Beverages

Cadbury Schweppes Australia Ltd (Claremont). In 1921, an association of three British confectioners established their Australian plant at Claremont, near Hobart. Today, the company is wholly owned by a single UK parent. The plant is the largest cocoa and confectionery factory in Australia and employs about 1000 people. Production specialises in moulded chocolate blocks, fancy boxed assortments, cocoa, drinking chocolate, the well-known Flake, Turkish Delight Bars and Twirl.

Approximately 30 million litres of fresh Tasmanian milk are used each year, most of which is collected and processed at Cadbury's Burnie dairy factory. The company is investing \$44.8 million over the next three years to upgrade its Claremont factory.



*Cadbury-Schweppes factory production line.
Photo: The Mercury*

Cascade Group of Companies (Statewide). Cascade is the oldest manufacturing company in Australia and is firmly established in the beverage industry at manufacturing, wholesale and retail levels. The company manufactures alcoholic beverages at Esk Breweries, Launceston (Boags) and Cascade Brewery, Hobart (Cascade). Cascade has a capacity of 55 million litres. New owners Wilson Neill Ltd are focusing on interstate and overseas markets, especially for Cascade Premium brand.

The Cascade Fruit Juices Division manufactures alcoholic cider under the brand names Mercury and Van Dieman and also Apple Isle non-alcoholic cider, Ultra-C blackcurrant vitamin C syrup, soft drinks, pure fruit juices, fruit juice syrups, berry fruit pulps and concentrations for local and export distribution.

Cascade is installing a new packer and conveyor system. The company owns hotels spread throughout the State and has a joint venture with Elders IXL to operate hotels in Queensland.

Edgell-Birds Eye Division of Petersville Industries Ltd (Devonport, Ulverstone and Scottsdale). Edgell-Birds Eye is Tasmania's leading processor of frozen and canned vegetables. An annual volume of approximately 207 000 tonnes of raw materials is processed by the Devonport, Ulverstone and Scottsdale factories. Crops processed include potatoes, green peas, green beans and carrots.

McCain Foods (Aust.) Pty Ltd (Smithton). The Canadian-parented McCain purchased the Smithton factory of General Jones in June 1984.

The factory produces frozen vegetables, of which the main brands are Copper Kettle, Pict and McCain. A french fry section opened in April 1989. Capacity is expected to be increased by a further 25 per cent to meet increasing demand for frozen vegetables in a \$5 million upgrade to be completed in the early 1990s. McCain employs 300 full-time staff with up to 300 part-time staff in peak periods.

United Milk Tasmania Ltd (Smithton, Wynyard, Devonport, Legerwood). UMT is Tasmania's largest manufacturer of dairy products and processes 200 million litres of milk a year. UMT produces butter (salted and unsalted), cheese (cheddar), milk powders (skim, full cream and buttermilk) and milk concentrates. UMT operates retail produce/hardware stores and a farm machinery business servicing rural areas.

In 1989, UMT, through a joint venture with Tasmanian businesses, expanded its range to shelf stable beverages and foods. In 1990-91, a major upgrade of manufacturing facilities was undertaken, including installation of an edible lactose plant, replacement of cheese vats and expansion of the reverse osmosis plant.

Lactos. After commencing operations in Tasmania in 1953, Lactos was acquired by the French company, Bongrain, in 1981. A renewed



*Lactos packaging section.
Photo: The Examiner*

Of the major employing industry subdivisions, the most even spread occurs in the wood, wood products and furniture subdivision where the smaller establishments (those employing fewer than 20) accounted for just over 30 per cent of employment. In the paper, paper products and printing subdivision four pulp and paper establishments were responsible for 62 per cent of employment. In the same subdivision 14 per cent of establishments accounted for over 84 per cent of employment and almost 92 per cent of turnover.

17.4 NUMBER OF ESTABLISHMENTS BY EMPLOYMENT SIZE: 30 JUNE 1989 (a)

Employment category	Establishments		Employment (b)	
	No.	Per cent	No.	Per cent
< 20	453	67.0	3 735	13.9
20 < 50	123	18.2	3 729	13.9
50 < 100	47	7.0	3 258	12.1
100 < 200	30	4.4	4 222	15.7
200 < 500	15	2.2	4 546	16.9
500 and over	8	1.2	7 428	27.6
Total	676	100.0	26 918	100.0

(a) Excludes establishments employing fewer than four persons.

(b) Employment at 30 June.

(Source: ABS Catalogue No. 8221.6).

17.3 GEOGRAPHICAL DISTRIBUTION

The geographic distribution of Tasmania's manufacturing activity, as to be expected, corresponds to the population distribution.

The Greater Hobart Statistical Division is the major centre of manufacturing. In 1988-89 this region accounted for 35 per cent of employment, 29 per cent of wages and salaries paid and 35 per cent of turnover generated by manufacturing. The main manufacturing activities in this region included paper manufacture, metal refining, confectionery, brewing, printing, clothing, textile and footwear.

The Greater Launceston Statistical Subdivision, which stretches north along each side of the Tamar River, had 28 per cent of the State's

manufacturing employment at the end of 1988-89. Important industries in the area included alumina smelting, textiles and clothing, woodchip production, sawn timber and printing.

The other main industry concentration is along the north-west coastal strip from Latrobe to Wynyard. Major industries in this area include paper manufacture, food processing (particularly vegetables), timber processing and furniture. The food processing and paper manufacturing industries account for almost 56 per cent of industry employment in this region.

17.5 REGIONAL MANUFACTURING 1988-89 (a)

Statistical division	Employment 30 June	Turnover (\$m)
Greater Hobart	9 574	1 359
Southern	1 039	165
Northern	8 732	1 080
Mersey-Lyell	8 187	1 257
Tasmania	27 532	3 861

(a) Includes single establishment enterprises employing fewer than four persons.

(Source: ABS Catalogue No. 8221.6).

Other timber-based industries (sawn timber, veneer manufacture and furniture) account for a further 11 per cent of manufacturing employment in the Burnie-Devonport statistical subdivision.

17.4 NATIONAL COMPARISON

Over the period 1981-82 to 1986-87 (the latest year of a fully detailed manufacturing census), the Tasmanian manufacturing sector has out-performed the total Australian sector. Nationally, over the period, manufacturing employment fell by 12 per cent, while in Tasmania the fall was just under six per cent. In terms of value added per employee (at current prices) Tasmanian manufacturing registered an increase of 84 per cent, while nationally the rise was only 65 per cent. The percentage increases in total value added were: Tasmania 73 per cent and Australia 45 per cent.

focus by management on marketing and product development has led Lactos away from 'hard' cheese markets to high quality specialty 'soft' products and in the process secured a financial turnaround. Bongrain opened a soft, ripened cheese factory at Burnie in 1985. In 1989, these operations were extended at a cost of \$2 million, doubling soft-ripened cheese production to 600 tonnes per annum.

Lactos has 50 per cent of the Australian soft cheese market. Export markets to Japan, Malaysia, Indonesia, United States and the French speaking Tahitians and Noumeans have developed.

The company is expanding its product line of nine specialty cheeses with the introduction of a mild brie tagged 'Heart of Brie' targeted at Australian tastes, 'Tasmanian True Blue' a blue vein cheese and whipped cream cheese for the Japanese market.

17.1.2 Textiles, Clothing and Footwear

Coats Patons (Aust.) Ltd (Launceston). Coats Patons first produced yarns in Tasmania over 60 years ago. The factory produces knitting yarns, both wool and synthetic. Annual production is approximately 1.5 million kilograms.



Sheridan Textiles. Photo: Textile Industries Australia

Sheridan Textile Industries Australia (Derwent Park). The mill commenced operations in 1948. Under Textile Industries Australia Limited's ownership since 1986, its production now includes textile printing and finishing of 100 per cent cotton and polyester cotton/percale fabrics along with some commission printing. A full range of premium quality bed linen products for both Australian and export market distribution is also manufactured on site.



Blundstone Boots.

Photo: Blundstone Pty Ltd

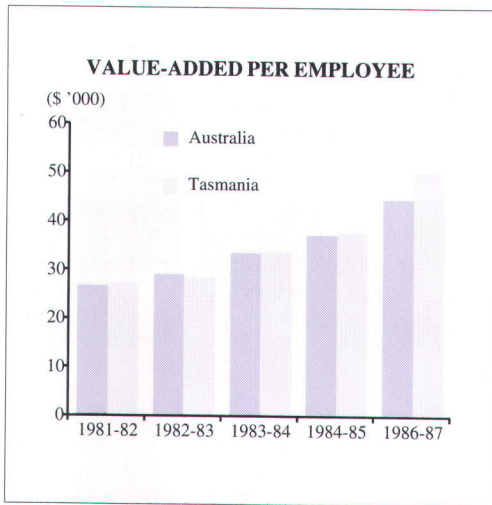
Blundstone Pty Ltd (Moonah). Manufacturers of industrial, work, safety, and bushwalking footwear for interstate and overseas markets, mainly the Pacific basin and Europe. Founded in 1870 in Hobart, the company moved to its present location at Moonah in 1980. Blundstone Pty Ltd has two subsidiary companies. One manufactures gumboots and the other is a tannery. The company has won a design award for specially designed spike soled forestry safety boots as well as an export award for excellence in expansion of export sales.

Bonds Weaving Mills (Devonport). Bonds Weaving Mills specialises in the manufacture of terry towelling. In 1989, the company was reported to have spent \$5.2 million in expanding and upgrading its Devonport Plant. The mill has now incorporated the latest computer technology, including a nappy machine imported from Japan. The developments are part of the company's transfer of its establishment operation from Victoria and the creation of 220 jobs.

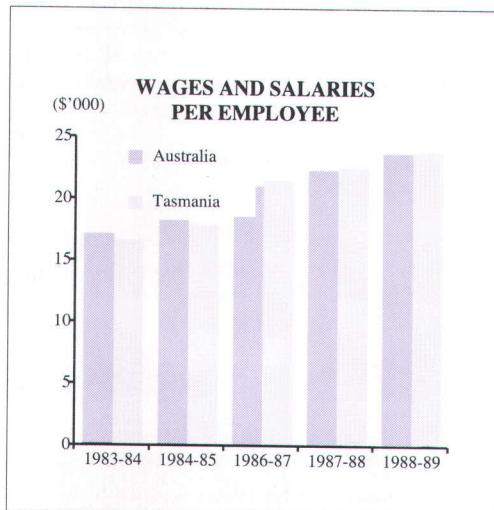
17.1.3 Wood, Wood Products, Paper, Paper Products

Associated Pulp and Paper Mills (Burnie, Wesley Vale, Long Reach, Triabunna). APPM is a wholly-owned subsidiary of North Broken Hill Holdings Ltd. It is Australia's principal producer of fine printing and writing papers, magazine papers and coated papers. In Tasmania, the company operates major manufacturing complexes at five centres:

Burnie - Paper production commenced at Burnie in 1938. Present annual capacity of the Burnie pulp and paper plant is 130 000 tonnes. A veneer production facility and sawmill is also based at Burnie.



Tasmanian manufacturing value added per employee in 1986-87 was \$50 830 compared with an Australian figure of \$44 920, or 13 per cent higher. In 1988-89, the wages and salaries paid per employee in Tasmania had risen to \$24 060, marginally above the Australian figure of \$23 920.



In terms of industry structure one of the more noticeable differences between Tasmanian and Australian manufacturing is the importance of the sectors based primarily on utilisation of timber resources. Nationally, in 1986-87, the wood, wood products and furniture and paper, paper products, printing and publishing subdivisions accounted for around 17 per cent of the value added by manufacturing and 18 per cent of employment in manufacturing. In Tasmania,

these two industry subdivisions are responsible for almost 40 per cent of value added by manufacturing and 31 per cent of employment. Another considerable difference in industry structure is the limited contribution made by the transport sector to Tasmanian manufacturing. In 1986-87 this sector contributed only two per cent to total value added and was responsible for around three per cent of manufacturing employment.

Nationally, the subdivision, which includes the motor car production industry, accounted for nine per cent of value added by manufacturing and almost 11 per cent of manufacturing employment.

Around 28 per cent of persons employed in the manufacturing industry nation-wide are women. The proportion of women employed in manufacturing has increased by around three percentage points over the period 1981-82 to 1988-89. In Tasmania, the proportion of women in the manufacturing workforce is much lower than the national average. In 1988-89 the proportion was about 22 per cent. However, this is four percentage points higher than the proportion in 1981-82.

Australian Newsprint Mills Secured Paper Contract in Hong Kong

Australian Newsprint Mills, Boyer, secured a contract worth \$3 million to supply paper for the Hong Kong telephone directory. The order, which was a great boon to the company, was for 3500 tonnes of both white and yellow paper. During the past five years, ANM has spent \$250 million to diversify and upgrade the mill. Although the major sales component from the mills production was newsprint, ANM hope to be able to expand the production of specialty grades of paper to between 20 000 and 30 000 tonnes per year.



Photo: ANM

Investment of \$10 million will modernise operations from November 1991, \$16 million is being spent on cut ream capacity.

Wesley Vale - Opened in 1970, the Wesley Vale site is an integrated pulp and paper complex. The plant has an annual capacity of about 65 000 tonnes of paper. Most of the production at Wesley Vale is for magazine papers. A particle board factory also operates at Wesley Vale, annual production is about 15 million square metres.

An investment of \$16 million has been made to develop high brightness pulp technology and \$8 million on a sludge treatment plant.

Long Reach - A woodchip plant was opened at Long Reach in 1972. The company has long-term contracts for the export of woodchips to Japan.

Triabunna - APPM operates a woodchip export mill at Triabunna and also has long-term contracts with Japan.

Australian Newsprint Mills Ltd. (Boyer). ANM began operations in 1941. Annual newsprint capacity is now 220 000 tonnes. The company is jointly owned by Fletcher Challenge and News Corporation. ANM also operates a newsprint mill at Albury in New South Wales with an output of 180 000 tonnes per annum. ANM is Australia's only producer of newsprint and currently supplies approximately 55 per cent of Australia's requirement. At the Boyer plant, \$100 million is being spent to upgrade equipment and improve environmental controls.



ANM Boyer, General Manager with export product.

Photo: The Mercury

17.1.4 Non-Metallic Mineral Products

Goliath Portland Cement Co. Ltd (Railton). Goliath has been involved in cement production in Tasmania since 1928. In 1980, a new plant was installed, making Goliath one of the most efficient producers of cement in Australia. Goliath operates its own 4000 tonne ship the *M V Goliath*, to transport bulk cement to mainland markets. There are plans to introduce a new vessel in the near future. Goliath has also been exporting palletised bagged cement to Papua New Guinea and other Pacific Island destinations since 1970.

In 1989, a joint venture company owned by CSR and Pioneer took control of Goliath. The plant is now expected to operate at its full capacity of one million tonnes per annum. Goliath also operates Besser Bricks and the Cornwall Coal Mine.

17.1.5 Basic Metal Products

Comalco Aluminium (Bell Bay) Ltd (George Town). Australia's first aluminium smelter commenced production in 1955 at Bell Bay, with an annual capacity of 12 000 tonnes of metal. In 1961, the plant and facilities were acquired by Comalco Aluminium (Bell Bay) and the capacity increased in stages to 117 000 tonnes per annum. Products made include rolling block, extrusion billet, foundry alloy ingot, T-bar alloy and primary metal as ingot, T-bar and granules.

Comalco Aluminium Powder produces aluminium powder, aluminium paste and high alloy metal powder briquettes.

**17.6 COMPARISON OF TASMANIAN AND AUSTRALIAN MANUFACTURING (a)
PROPORTION OF TOTAL
(Per Cent)**

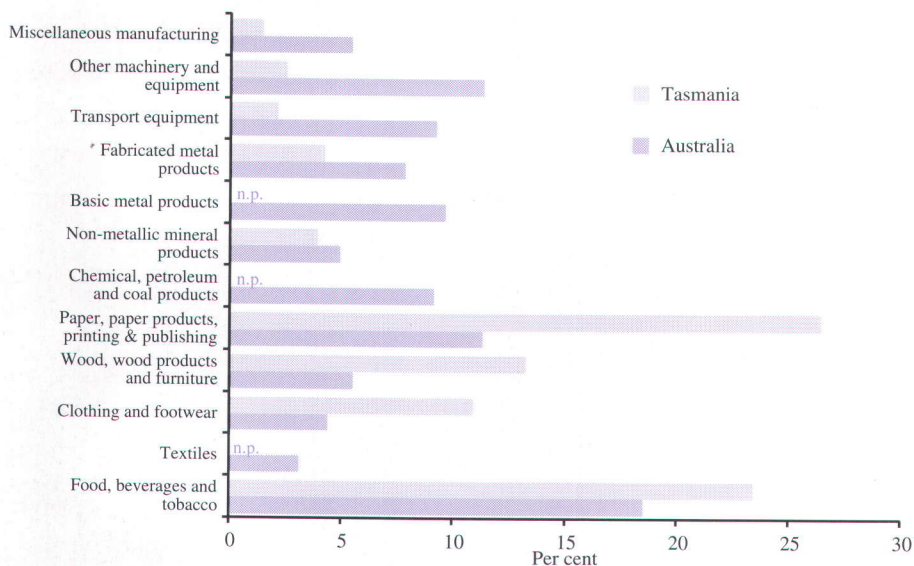
ASIC sub-division	Tasmania			Australia		
	1988-89		1986-87	1988-89		1986-87
	Employment (b)	Turnover	Value added	Employment (b)	Turnover	Value added
Food, beverages and tobacco	24.1	27.1	23.4	16.5	20.6	18.5
Textiles	4.8	2.8	n.p.	3.0	2.7	3.1
Clothing and footwear	2.6	1.0	10.9	7.0	3.6	4.4
Wood, wood products and furniture	14.4	13.6	13.2	7.8	5.2	5.5
Paper, paper products, printing and publishing	18.9	20.6	26.4	10.4	8.7	11.3
Chemical, petroleum and coal products	n.p.	n.p.	n.p.	4.9	9.0	9.1
Non-metallic mineral products	3.3	4.1	3.9	4.0	4.8	4.9
Basic metal products	n.p.	n.p.	n.p.	6.7	12.8	9.6
Fabricated metal products	7.0	4.7	4.2	9.8	7.7	7.8
Transport equipment	4.4	1.4	2.1	10.9	9.6	9.2
Other machinery and equipment	3.3	2.0	2.5	12.9	10.0	11.3
Miscellaneous manufacturing	2.2	1.3	1.4	6.1	5.3	5.4

(a) Excludes establishments fewer than four persons.

(b) At 30 June.

(Source: ABS Catalogue No. 8221.6).

MANUFACTURING 1986-87: VALUE ADDED



Pasminco Metals - EZ (Risdon and Rosebery). Established in 1916, the factory at Risdon is the largest producer of zinc in Australia and the second largest electrolytic zinc plant in the world. It exports an extensive range of zinc and zinc alloys to over 30 countries. The Risdon plant has the capacity to produce more than 600 tonnes of zinc per day.

Apart from the zinc and zinc alloys, EZ also produces cadmium, sulphuric acid, superphosphate and ammonium sulphate. The zinc plant supplies a large proportion of Australia's total requirements. The company has commenced a major modernisation program to be completed by 1992. In 1989, the Risdon plant received its first load of Hellyer zinc concentrate. Mine production capacity at the company's west coast mines at Rosebery is 650 000 tonnes of silver-lead-zinc-copper-gold ore per annum. The associated concentrating mill at Rosebery has the capacity to treat 850 000 tonnes of ore per annum, including treatment of ore from the Que River Mine.

Tasmanian Electro-Metallurgical Co. Pty Ltd (Bell Bay). In 1962, BHP transferred its major alloy making from Newcastle to Bell Bay. Expansion, in 1976, gave export capacity and added ferro-silicon and manganese ore sinter to the existing product range of high carbon ferro-manganese and silico-manganese. A significant proportion of production is being exported to steelmakers and foundries in South East Asia, the Middle East, Japan, the United States of America and New Zealand. TEMCO completed a \$57 million capital works program in 1987 to increase output by 40 per cent.

17.1.6 Fabricated Metal Products

Humes Ltd (Statewide). Humes operates three divisions in Tasmania: Humes Concrete, producing pre-cast concrete; Humes Plastics, manufacturing UPVC and high-density polythene pipes and fittings for a wide range of uses; and Humes-ARC, producing prefabricated reinforcement mesh and rod.

ACL Bearing Company (Launceston). This factory was established in 1949 to manufacture engine bearings for the Australian spare parts trade. The factory has since expanded and diversified its range of products and is now the only automotive bearing manufacturing company in Australia. ACL also undertakes the manufacture of sintered products using powder metallurgy techniques.



Pasminco Metals - EZ, Risdon.

Photo: John Hays

17.1.7 Transport Equipment

International Catamarans Pty Ltd (Hobart). International Catamarans specialises in commercial aluminium catamarans. The craft are mainly used as passenger ferries, although utility vessels such as oil rig tenders, light defence and patrol craft are also in service.

The success of their design led to licensing of yards in other States and in Asia, as well as the sale and exchange of related technology in Europe and North America. Local production extended to larger, higher quality vessels for export, including two 470-passenger ferries for the UK market. The local workforce includes full-time sub-contractors and apprentices. Hobart is seen as an ideal base from which developments can be tested and improved.

In July 1989, International Catamarans opened a new boat-yard at Prince of Wales Bay in Hobart. The facility is large enough for three large catamarans to be built simultaneously.

Ansair Kingston. Ansair Kingston is owned by Ansett Transport Industries. Ansair has a bus plant at Kingston, manufacturing bus bodies and components. In 1989, the company won a Government two year contract to produce 49 buses for \$9 million. The company is looking to win contracts to supply a new mini-bus design for New Zealand and interstate markets.

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Chapter 18

HOUSING AND CONSTRUCTION

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CHAPTER 18

HOUSING AND CONSTRUCTION

Housing is one of the necessities of life, in the same way as food and clothing are basic commodities that everyone requires. The location and type of accommodation that people choose provides insights into a wide range of social and economic influences on the population. One of the major investment decisions made by people and businesses is the choice of shelter or an appropriate workplace, and this decision is affected by a range of factors. These factors include price, location, access to work, amenities and public infrastructure, planning and government decision making, and personal preference.

The housing and construction industry is being observed with interest as it is usually the first sector to show signs of recovery after an economic downturn. The amount of building activity that is undertaken is affected by economic circumstances, and the reduction in interest rates on housing and commercial loans appears to increase activity. The consequences of increased building activity are significant to the whole economy.

This resurgence in building activity has further downstream benefits, in that houses are constructed from materials that are produced in the manufacturing sector. The construction and housing industry (which also includes construction of roads, bridges, dams and wharfs) employs around six per cent of the employed workforce, and contributes approximately seven per cent of the State's gross product at factor cost.

18.1 HOUSING

Home ownership has been described as the Great Australian Dream, and the significance of this belief has been demonstrated in recent

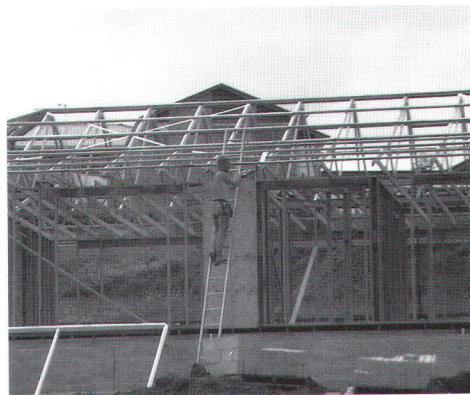
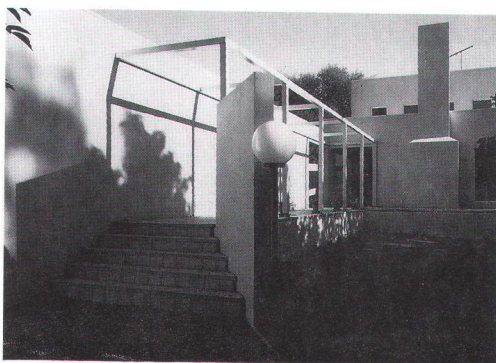


Photo: Stuart Jackson

years. High housing loan interest rates that have been experienced recently have reduced access to home ownership. As a consequence, the affordability of housing became a political issue, particularly after interest rates were used as a process to reduce consumer spending and the inflation rate.

The 1986 Census revealed that, at that time, 71 per cent of Tasmanian households had either bought or were in the process of buying their own home. This compares with 63 per cent



*House at Grange Ave. designed by Ray Heffernan.
Photo: Royal Australian Institute of Architects*

home ownership in Britain, 73 per cent in New Zealand and 52 per cent in Sweden.

Within Tasmania the highest proportions of ownership were recorded in the municipalities of Beaconsfield with 85 per cent, Huon with 84 per cent and Sorell with 83 per cent. Municipalities with the lowest proportion were Waratah with 10 per cent, Zeehan with 32 per cent and Brighton with 41 per cent.

18.1.1 The Location of Residential Building

Over the last 20 years the majority of residential building has occurred in and around the urbanised centres of Hobart, Launceston, Devonport and Burnie. These regions of development have shown periods of high levels of residential building, though few have shown consistent growth.

The levels of house building are affected by the overall economic climate, particularly the levels of home loan interest rates. The siting of public housing development can also have a significant effect on the structure and growth of particular areas.

In the south, the area with the highest levels of public housing development during the 1970s and 1980s was the Brighton Municipality. The broadacre developments at Bridgewater and Gagebrook were established during the early 1970s and were the primary focus of public housing development until the mid-1980s. In 1970-71 there were only 11 building approvals for private houses in the Brighton Municipality but by 1972-73 there were 191 new dwelling approvals. This development peaked at over 300

dwellings approved during the years of 1979-80 and 1980-81 but declined to less than half that level during the 1980s.

In 1989-90 a total of 87 new dwellings were approved in Brighton, of which none were publicly funded. Clarence, Glenorchy, Kingborough and Sorell Municipalities incorporate the urban fringe areas of Hobart, and have shown periods of significant growth. The mid-1970s saw considerable expansion in all these areas, with Clarence recording 698 new building approvals in 1973-74, the highest level for any municipality over the last 20 years.

The mid-1980s also showed high levels of growth but not to the same extent as in the mid-1970s. In the north of the State the local government areas of significant activity have been Launceston, Beaconsfield, Westbury, and St Leonards and Lilydale which amalgamated with Launceston in the late 1980s. The urban areas in north-western Burnie, Devonport and Ulverstone have all shown increased activity during the mid-1970s and 1980s.

Currently, building activity in Tasmania is at reduced levels in response to the economic downturn but the areas at the urban fringes are still showing strong growth. These areas are Glenorchy, Kingborough and Sorell in the South, and Beaconsfield, Westbury, Penguin and Wynyard in the North.

18.1.2 New Housing

Building activity, as measured by the number of new dwellings approved, has shown a reduc-

18.1 NUMBER OF DWELLING APPROVALS, TASMANIA

Year	Private		Public	
	Houses	Other	Houses	Other
1983-84	2 554	433	364	336
1984-85	2 945	770	470	185
1985-86	2 648	818	372	270
1986-87	2 349	758	298	233
1987-88	2 395	672	277	154
1988-89	2 684	864	206	160
1989-90	2 547	764	116	92
1990-91	2 466	827	89	101

(Source: ABS Catalogue No. 8731.6).

tion in recent years. The number of new houses approved in the private sector has declined since 1988-89, and the high interest rates experienced over the last few years would have been a significant contributor to this downturn. The downturn in houses does not completely reflect the overall trend in residential building as the building of other dwellings, such as flats and units, has not experienced the same downturn. This is partly due to a preference for higher density housing, in response to the ageing population and the reduced affordability of new housing.

The building approvals trend series reduces the influences of seasonal and irregular fluctuations evident in the monthly approvals figures. This trend series shows the peak of activity in 1985, which then declined to the low levels of activity experienced in early 1988. There was a significant recovery in 1988 and 1989, with a further decline in 1990 as the recession placed pressure on the residential building sector. Housing loan interest rates fell in the second half of 1990. The levels of approvals responded accordingly, with an upturn in activity occurring into early 1991. The housing sector is seen as an important indicator of the state of the economy, as it is believed to be the first sector to experience increased activity in any recovery from economic recession.

In 1990-91, 34 per cent of new houses approved were in the Hobart Statistical Division, where 40 per cent of the State's population live. The Greater Launceston Statistical Subdivision accounted for 20 per cent of approvals, while

18.2 RESIDENTIAL DWELLING APPROVALS

Region	1989-90	1990-91
Greater Hobart Statistical Division	1 259	1 295
Southern Statistical Division	422	446
Greater Launceston Statistical Subdivision	833	785
Central North Statistical Subdivision	147	172
North-Eastern Statistical Subdivision	175	147
Northern Statistical Division	1 155	1 104
Burnie-Devonport Statistical Subdivision	483	426
North-Western Rural Statistical Subdivision	188	187
Western Statistical Subdivision	12	25
Mersey-Lyell Statistical Division	683	638
Tasmania	3 519	3 483

(Source: ABS Catalogue No. 8731.6).

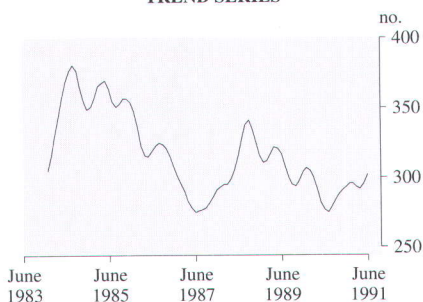
the Burnie-Devonport Subdivision had 12 per cent. These two areas have 20 per cent and 17 per cent of population respectively.

For other new residential buildings (flats and apartments), Greater Hobart recorded 46 per cent of the approvals, Greater Launceston 30 per cent, and Burnie-Devonport accounted for 12 per cent.

18.1.3 Public Housing

Public housing in Tasmania provides access to adequate accommodation for those disadvantaged groups in the community. These groups include low income families and individuals, single parent families and pensioners. The Commonwealth-State Housing Agreement is the principal source of funding for this program. The Agreement provides untied capital grants for both rental and home purchase assistance, as well as providing specific funding for pensioner housing, Aboriginal housing, crisis accommodation and mortgage and rent relief. The demand for public housing is still high, while funding under the current agreement is decreasing from \$51.9 million in 1988-89, to a projected \$29.1 million in 1992-93. In 1989-90, 2614 applicants

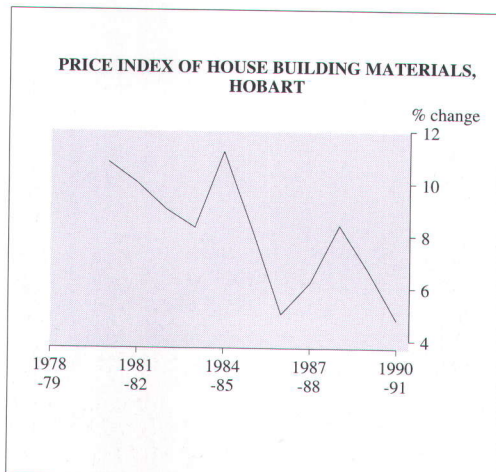
RESIDENTIAL BUILDING APPROVALS,
TASMANIA
TREND SERIES



were granted housing under the Public Rental Housing program but 4722 applications were received over the same period. This left 4226 applications on hand at the end of the period. This coincides with a reduction in the building program for public housing stock. In 1983-84, 364 houses and 336 other dwellings were added to the public housing stock, and this had decreased to 89 houses and 101 other dwellings constructed in 1990-91.

18.1.4 Home Finance

There is a clear relationship between loans for established dwellings and interest rates. This could be due to first home buyers, who generally purchase established dwellings in preference to building, and require mortgages for a significant proportion of the purchase price. The high interest rates that were experienced during the late 1980s reduced access to first home loans. As interest rates rose in 1988 and early 1989, there was a corresponding drop in the housing loans for established dwellings. Conversely, when interest rates started to decline during 1990 and early 1991, there was an increase in loan approvals for both established houses and houses being built. A significant number of home purchasers were insulated from the rising interest rates by a government-imposed ceiling of 13.5 per cent per annum for bank loans approved prior to 1986. With the home loan interest rates being comparable to the 13.5 per cent ceiling, they are now selling their established residences and building new homes, as has traditionally been the pattern for first home owners when purchasing their second house.



AUSTRALIAN TAXATION OFFICE BUILDING

Hobart's new Australian Taxation Office (ATO) building at 200 Collins Street, Hobart, should be completed in September 1992.

Commencement of construction culminated almost two years of hard work to secure suitable accommodation for ATO in Tasmania, thus enabling it to introduce its computer modernisation program in a single building rather than using three separate locations as it currently does.

The project has been managed for ATO from its inception by Australian Property Group (APG) which is a commercialised business, operating within the Department of Administrative Services, that provides a full range of property services to Commonwealth government departments and agencies. Australian Construction Services is designing the fitout for ATO and also played a significant role in the selection of the developer. The building is being constructed by Hansen Yuncken (Tasmania) Pty Ltd with all architectural and engineering services being provided by local companies.

The building, comprising approximately 11 000 square metres of office accommodation and associated storage and car-parking facilities, will be the largest low-rise office building in Tasmania. Upper floors will have an area in excess of 3000 square metres and the building will have an imposing frontage of over 100 metres in length. A large atrium will be one of the main features of the four storey building, and energy efficiency features were a critical consideration.

ATO considers that the new building will result in greater efficiency and improved services for the public and that security of taxpayer information will be further enhanced by the stringent requirements satisfied by the building's design. Upon completion it will house up to 550 staff.

The completion of this building and Stage Two of the adjoining Commonwealth Government Centre will result in approximately 43 000 square metres of Commonwealth offices being located in one precinct in Collins Street.

(Source: Australian Property Group).

18.3 Average Costs for Buildings Completed Tasmania (\$/m²)

	1985-86	1986-87	1987-88	1988-89	1989-90
New Houses	317	344	354	392	413
Other new residential dwellings	388	482	477	568	571
Non-residential Building	726	831	800	649	713

18.1.5 Cost of House-Building Materials

The Price Index of Materials measures the change in the cost of building materials, and incorporates the various material inputs from timber and bricks to paint and plumbing supplies. Over recent years, the costs of materials have risen less in Hobart than in Australia, as measured by the weighted average of six capital cities. The Price Index has also shown that over the last four years the cost of building materials has risen less than the inflation rate, with the exception of 1988-89.

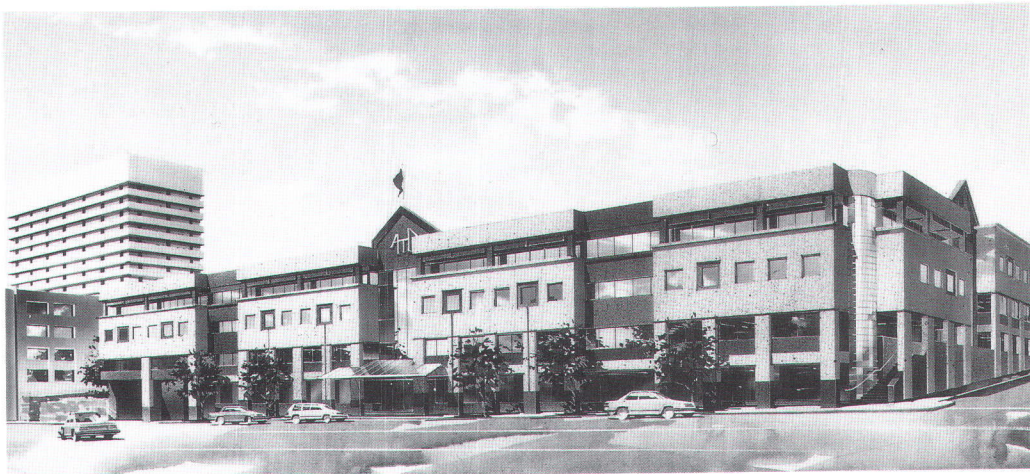
The average costs for buildings completed provides a measure of the changing costs of building over the last five years. The unit cost per square metre has increased steadily since 1985-86 for new houses. Other new residential dwellings have not shown the same pattern of increase. This is due partly to the changing mix of high density dwelling types. Unit costs for non-residential buildings are influenced by the type of buildings. Large scale construction such as international hotels and office

accommodation has a significant influence on the non-residential building sector in Tasmania. The construction of new international hotels in Launceston and Hobart, and State government office accommodation in 1986-87 and 1987-88 produced a high average unit cost for this period.

18.2 CONSTRUCTION**18.2.1 Building Construction**

The value of building work done in 1989-90 was \$471.4 million which was a 1.5 per cent increase on the \$464.5 million recorded for 1988-89. Work done on new residential building was valued at \$230.2 million, or 49 per cent of the total, and non-residential building work done was \$208.7 million.

The value of work done on non-residential buildings in 1989-90 was 8.5 per cent lower than for 1988-89. Building activity on hotels, health and recreation facilities was reduced by



Artist's impression of the Australian Taxation Office, Hobart. Photo: Australian Property Group

18.4 VALUE OF WORK DONE, TASMANIA (\$m)

Type of building	1987-88	1988-89	1989-90
New houses	141.4	162.6	182.4
Other new residential buildings	32.6	46.6	47.8
Total new residential buildings	174.0	209.2	230.2
Alterations and additions to residential building	20.2	27.1	32.5
Hotels etc.	21.9	23.2	8.4
Shops	22.1	10.9	12.6
Factories	21.7	24.8	24.6
Offices	23.9	48.1	62.1
Other business premises	21.7	22.3	14.2
Educational	31.2	36.7	38.1
Religious	1.6	1.9	1.9
Health	36.1	24.7	16.7
Entertainment and recreational	4.8	20.1	14.6
Miscellaneous	9.6	15.4	15.6
Total non-residential building	194.4	228.2	208.7
Total all building	388.7	464.5	471.4

(Source: ABS Catalogue No. 8752.6).

64 per cent, 32 per cent and 27 per cent respectively, over the previous year. Work done on offices, shops and education facilities increased by 29 per cent, 16 per cent and four per cent respectively. Work done on alterations and additions to residential buildings rose from \$27.1 million in 1988-89 to \$32.5 million in 1989-90.

The value of non-residential buildings approved provides a measure of the amount of activity in the construction sector. In 1990-91, \$135.8 million worth of non-residential buildings were approved, an increase on the \$130.4 million for 1989-90 but considerably less than the \$197.9 million recorded in 1988-89. Nearly all of the current major projects are being undertaken in the Hobart area.

The Commonwealth Government has two major building projects underway in Hobart with the \$21.7 million Stage Two redevelopment of the Government Centre and, next door, the new \$17 million Taxation Department offices. The only other major office development

is the ANZ Bank Office construction, valued at \$15 million. Other projects of significance are the \$5.5 million Purity Supermarket development in Sandy Bay and a \$1 million nursing home in the Clarence Municipality. In the North there is a \$2.7 million building program at the Comalco Refinery at George Town and Stage One of the Exeter Primary School valued at \$1 million.

18.2.2 Engineering Construction

Engineering construction relates to the building of roads, bridges, railways, dams and sewerage systems. The public sector is responsible for the majority of the activity. In Tasmania there has been a decline in the level of engineering construction undertaken, as the value of work done on engineering construction projects during 1989-90 has declined by 30 per cent to \$218.7 million from \$308.3 million in 1988-89. The value of engineering construction commenced during 1989-90 was \$140.9 million, a 22 per cent reduction when compared to \$180.7 million in 1988-89.

This indicates that infrastructure development has slowed due to the economic conditions, with progress on many projects being delayed due to

18.5 ENGINEERING CONSTRUCTION, VALUE OF WORK DONE, TASMANIA (\$m)

Project	1987-88	1988-89	1989-90
Roads, highways and sub-divisions	82.4	100.4	72.3
Bridges	5.5	11.6	10.7
Railways	0.7	-	-
Harbours	5.0	4.4	2.0
Water storage and supply (a)	5.6	42.9	48.0
Sewerage and drainage	9.1	8.3	9.5
Electricity generation, transmission and distribution (a)	99.5	54.3	15.5
Pipelines	0.2	-	0.3
Recreation	6.4	4.6	4.1
Heavy industry	21.6	45.2	18.7
Telecommunications	32.4	35.8	36.0
Other	0.5	0.9	1.7
Total	268.9	308.3	218.7

(a) From 1988-89 there were changes in reporting by the Hydro-Electric Commission.

(Source: ABS Catalogue No. 8762.0).

STAGE TWO - COMMONWEALTH GOVERNMENT CENTRE

The development of Stage Two of the Commonwealth Government Centre, located at 188 Collins Street, involves the construction of three integrated buildings which will wrap around the existing Commonwealth Government Centre and provide an additional 9000 square metres of high quality office accommodation along with car parking. This will reinforce the Centre as the focus of Commonwealth activity in Hobart.

The Australian Property Group, which provides commercially based property services to the Commonwealth Government, initiated the project which is being fully funded by the Commonwealth Government. APG is managing the development and will undertake the future management of the building. Australian Construction Services designed the building and is supervising its construction.

The development has been designed to be sympathetic with its surrounds and to soften the impact of the existing Centre Tower, which was constructed in 1974. This has been achieved by the low rise nature of the buildings, the provision of set backs and the use of an external finish which simulates sandstone.

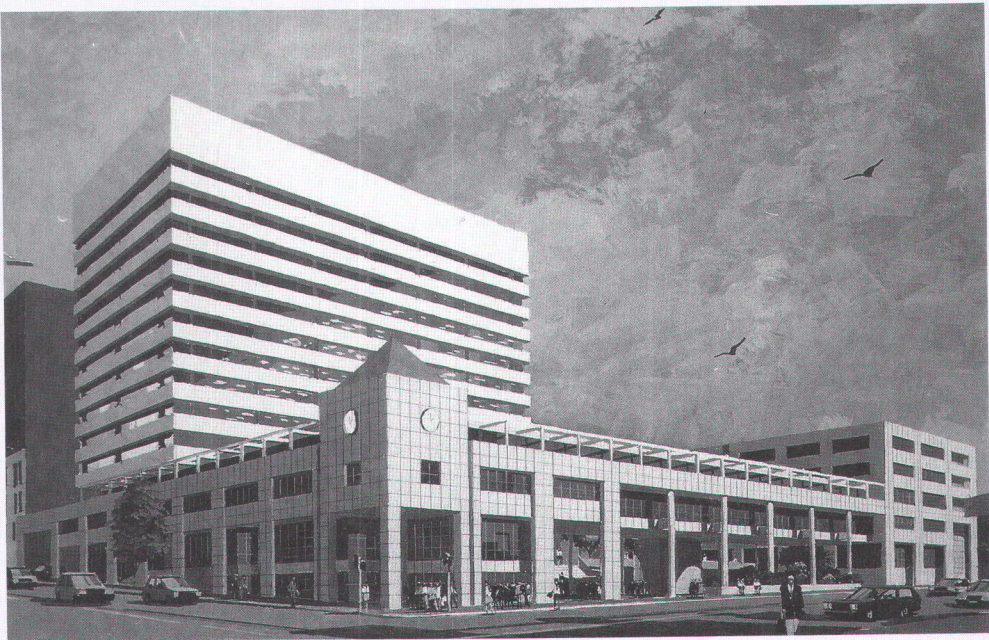
The clock tower will provide an architectural focal point for the area.

The contract for the construction of Stage Two was awarded to Hansen and Yuncken (Tasmania) Pty. Ltd. The total project cost is estimated to be \$28 million.

Construction commenced 11 May 1990 and the buildings should be ready for occupation in March 1992. During this period up to 120 people will be employed on-site with approximately 80 people being employed in off-site activities. When the buildings are completed they will provide high quality office accommodation for approximately 400 people.

An automatic infrared lighting management system will be installed which will reduce electricity consumption and costs. The provision of access flooring will allow more flexibility in the location and movement of staff work stations.

The main occupant will be the Department of Social Security. This will enable DSS to consolidate its Hobart operations which will



(Article and photograph contributed by Australian Property Group.)

CODE OF CONDUCT

The Tasmanian Chapter of the Royal Australian Institute of Architects was formed in 1936, and was preceded by the Tasmanian Institute of Architects, itself dating from 1903. The Chapter represents the interests of 183 members.

The objectives of the Institute include the advancement of architecture, representing the profession's views and maintaining standards of professional conduct, protecting and promoting the interests of the profession, increasing public confidence in the profession, encouraging and rewarding the study of architecture, liaising with government at all levels, originating and promoting improvements in the law relating to the building professions, holding and promoting competitions and examination of applicants for membership.

The Institute, as instanced by its Code of Professional Conduct, its Environmental Manifesto and Manifesto on Barrier Free Design, demonstrates the concern of the architectural profession for the quality of the built environment. The Code of Professional Conduct is recognised as a model document for other professional bodies. The Chapter has representatives on numerous organisations including the Board of Architects, State Fire Advisory Committee, Building Appeals Board, Building Regulations Board, Sullivans Cove Development Authority, ACROD Access and Mobility Committee, Australian Council of Professions.

Services to members and the public offered by the Institute and its subsidiary companies include the publication of *Architecture Australia*, advisory services to members by the Practice Division, Marketing and Information services, Education and Professional Development, Professional Indemnity Insurance, Complaints and Disciplinary Procedures, advisory services to the public by Archicentre, Accreditation of Schools of Architecture, bookshops in Sydney and Melbourne.

The Chapter maintains a close liaison with the Board of Architects, where it is represented by the President and an elected member of Chapter Council. Members are deeply involved in the examining of Graduates by the Board for registration.

The Chapter organisation embraces a Division, based in Launceston and known as the Northern Division, which enables northern members to participate at a local level.

Probably the most public manifestation of the members' activities and worth is the Annual Awards program, held in the first half of the year, culminating in an Awards Presentation Evening. Awards are offered in seven categories, namely Residential, New Building—Non-residential, Corporate and Office Design, Recycled Buildings, Building Conservation, Interior Design and the S.W.T. Blythe Award for Students. In the first six categories entry is limited to work carried out in Tasmania by architects registered in Tasmania.

In 1991, named awards were re-introduced. These are the James Blackburn Award for Residential Buildings, John Lee Archer Award for Non-residential Buildings including Corporate and Office Design and Interiors, Henry Hunter Award for Conservation including Recycled Buildings. One of these awards is to be offered each year on a triennial rotation, and will be contested by the award winners in that category for the three previous years. In 1991, the James Blackburn Award for Residential Buildings was won by the House at Grange Avenue, Taroona; Architect: Ray Heffernan of Eastman, Heffernan, Walch and Button.

Awards for 1991 were presented for Madden House, Architect: Michael Cooper of Cooper Newton and Associates; Sheffield District High School, Architect: Ray Heffernan of Eastman, Heffernan, Walch and Button; Pipers Brook Winery, Architect: Robert Morris-Nunn of Robert Morris-Nunn and Associates; Kanangra, Architect: Robert Morris-Nunn of Robert Morris-Nunn and Associates; the S.W.T. Blythe Student Award was presented to Gerard Reinmuth.

The building professions in 1991 were hit by recession, and employment opportunities for architects have been limited. This has coincided with a restructuring and reduction of the State Public Service, further limiting employment.

(Source: Royal Australian Institute of Architects, Tasmanian Chapter).

18.6 TOTAL VALUE OF CONSTRUCTION, TASMANIA (\$m)

Year	Building	Engineering	Total
1987-88	388.7	268.9	657.6
1988-89	464.5	308.3	772.8
1989-90	471.4	218.7	690.1

(Source: ABS Catalogue No. 8762.0).

financial constraints. The value of work yet to be done measures the ongoing nature of these activities and at the end of 1989-90 there was still \$246.4 million of engineering construction to be completed, a 17 per cent rise over the \$210.3 million still to be done at the end of June 1989. This indicates that the level of activity in the engineering construction sector is, overall, lower than in previous years.

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Chapter 19

TRANSPORT and COMMUNICATIONS

Although Tasmania has not seen revolutionary changes in transport, such as proposals for ultra-high-speed trains or suburban monorail systems that have been evident in other States, innovations and improvements have nevertheless taken place. With moves to establish a high-speed catamaran service across Bass Strait, new radio stations and the State's communications network enhanced by a new optical cable link, Tasmania's infrastructure has kept pace with the rest of Australia consistent with its needs.

19.1 TRANSPORT

Almost every sector of the community relies on the transport industry. Without road, water, air and rail transport the life-style and conveniences that we take for granted would not be possible.

19.1.1 Roads

New Road Works

The Department of Roads and Transport is responsible for the planning and design of roads and bridges in Tasmania. Actual construction and maintenance work is either tendered or arranged through the Department of Construction.

Highlights of the 1989-90 financial year included:

- the opening of the Deloraine Bypass Stage 1 in June 1990 after five years' work and contract documents for Stage 2 being issued and awarded. The total expenditure on this project to June 1990 was \$16 million;
- design of the dual carriageway from West Park to Toorak Court, Burnie, was completed at a cost of \$317 000 in 1989-90;
- along the Midland Highway designs were completed for five sections of overtaking lanes, each of 1.5 kilometres length;
- the Kings Meadows Connector interchange was completed in early 1991. Total expenditure to 30 June 1990 was \$2.1 million;



The central bus interchange, Hobart.

Photo: The Mercury

19.1 MOTOR VEHICLES ON REGISTER TASMANIA (a)

Year	Number of vehicles on register ('000)	Vehicles per 1000 of population (no.)
1910	0.4	2
1920	4.1	20
1930	19.5	89
1940	26.2	109
1950	43.2	156
1960	93.2	271
1970	154.3	398
1980	229.5	542
1990	294.3	644

(a) At 30 June.

(Source: ABS Catalogue No. 9303.6).

- the East Tamar Highway at Fourteen Mile Creek had road approaches and works completed by June 1990 at a cost of \$1 million;
- in the south, the national arterial road system saw the Brooker Highway carriage duplication reach completion from Claremont Link Road to Abbotsfield with expenditure of \$1.3 million; and
- the first 4.2 kilometres of the South Arm Highway was completed in December 1989. It links the Tasman Highway at Mornington with Rokeby Main Road at Howrah.

19.2 MOTOR VEHICLES REGISTERED, AUSTRALIAN STATES, 1990 (a) (b)

State	Number of vehicles on register ('000)	Vehicles per 1000 of population (no.)
NSW	3 134.0	537.8
Vic.	2 584.3	590.0
Qld	1 687.3	580.5
SA	853.8	593.3
WA	1 000.2	612.2
Tas.	287.9	630.5
Australia	9 776.6	572.3

(a) Excluding motorcycles.

(b) At 30 June.

(Source: ABS Catalogue No. 9303.6).

Motor Vehicles

Motor vehicle registrations have grown steadily both in the number of vehicles registered and also in terms of vehicles registered for every 1000 people.

At 30 June 1990 Tasmania had the highest rate of vehicle ownership in Australia.

Road Traffic Accidents

In 1990, 71 people were killed and 1905 injured on Tasmanian roads. This was a decrease of 11.3 per cent and 4.6 per cent respectively on the previous year. Alcohol was a contributing factor in 34 per cent of deaths and 20 per cent of injuries. Failing to observe a traffic sign or signal was a prime cause in 12 per cent of injuries but only three per cent of deaths. Inattentive driving was the cause of 10 per cent of the injuries and four per cent of deaths. After alcohol; excessive speed, having regard for the con-

19.3 ROAD ACCIDENTS, TASMANIA, 1990

Year	Accidents involving casualties	Number of persons	
		Killed	Injured
1984	1 445	84	2 015
1985	1 495	78	2 070
1986	1 468	91	2 060
1987	1 407	77	1 959
1988	1 457	75	1 925
1989	1 482	80	1 997
1990	1 386	71	1 905

(Source: ABS Catalogue No. 9405.6).

ditions was the major cause of death (17 per cent) although it contributed to only nine per cent of the injuries. Forty four per cent of persons killed and 51 per cent of those injured were under 25 years of age.

Accidents, injuries and deaths were more likely to occur on a Saturday (19 per cent, 20 per cent and 21 per cent respectively). Accidents and injuries are most likely to occur in the afternoon from 4 o'clock to 5 o'clock (10 and 11 per cent respectively).

Bus Services

In Tasmania, the State Government runs buses in the major metropolitan areas through the Metropolitan Transport Trust. In 1989-90 the number of passenger trips by the MTT was

19.4 MTT PASSENGER JOURNEYS, TASMANIA (^{'000})

1985-86	13 322
1986-87	12 875
1987-88	13 213
1988-89	12 809
1989-90	12 503

(Source: Department of Roads and Transport, Annual Report 1989-90).

estimated to be 12 503 000. This was a decrease of 2.4 per cent on the previous year.

Development of a proposal for a central city bus station, on St John Street, has continued with the Launceston City Council. A similar project in Elizabeth Street, Hobart, has also commenced. The termini are designed to provide a central pick-up and deposit point in the inner city, reducing congestion in the surrounding streets.

A Metro 10 Day Tripper ticket was introduced to allow adult concession fare passengers 10 days of off-peak travel at a discounted price.

19.5 MTT OPERATING STATISTICS, 1989-90

Passenger journeys -	
Hobart	9 442 000
Launceston	2 283 000
Burnie	778 000
Vehicle kilometres	9 416 000
Revenue (\$)	9 486 000
Expenditure (\$)	25 747 000
Employment -	
Hobart	412
Launceston	100
Burnie	29

19.1.2 Sea Freight

With the introduction of the *Princess of Tasmania* onto the Devonport to Melbourne route in 1959, Bass Strait shipping entered a new era. Despite this quantum leap in shipping technology, a degree of stagnation had entered the industry by the early 1980s. Three long established lines were operating nine ships. There was limited direct competition and cargo han-

dling techniques were inefficient. The 1980s have been a watershed. Increased competition has occurred as new operators have entered the market. Efficiency has improved with new techniques being introduced and most importantly the cost of shipping a container across Bass Strait has been reduced dramatically.

Until 1985 Tasmanian services were dominated by the Australian National Line (ANL) and Union Bulkships. ANL served the Northern ports, Burnie, Devonport and Launceston while Union served Hobart. Both companies ran services to Melbourne and to Sydney and ANL ran to Brisbane and the North Queensland ports. ANL and Union had operated this pattern of services since the introduction of containerised roll-on roll-off freight services in the mid 1960s.

In the early 1980s ANL had a fleet of six ships, the three 'trader' vessels (*Sydney*, *Brisbane* and *Townsville Traders* built in the late 1960s), the larger and more modern *Bass* and *Melbourne Trader* (based on a standard European design built in 1975 and 1976 respectively) and the passenger ferry *Empress of Australia*. Until 1982 Union had used two large gas turbine powered ships and when these became uneconomical they introduced the *Seaway Hobart* and the *Seaway Melbourne* which are sister ships to the *Melbourne Trader*. All these vessels carry containers which are loaded onto the ship by fork lifts. This has been dubbed the STO-RO system.

In 1984 ANL began to rationalise its shipping services and withdrew from Queensland. In Tasmania it ceased cargo services from Devonport and in 1985 withdrew the *Empress of Australia*. This year saw massive changes to Bass Strait shipping. The Tasmanian Government's TT-Line took on the Melbourne-Devonport passenger/cargo service with its 19 000 tonne *Abel Tasman*, recently imported from Germany. At the same time, Brambles introduced the 'Mercandian' class vessel *Challenger B* on a three times weekly service between Burnie and Melbourne.

These two new entrants not only provided a degree of competition in Bass Strait shipping but also introduced new cargo handling arrangements. TT-Line brought back the use of road trailers as the cargo carrying unit in line with the latest European short sea practice. (It had been tried in the early 1960s by ANL.) Brambles used containers but loaded them onto the ship using MAFI trailers. These are low,

BRUNY ISLAND FERRIES

About 1860, George Davis started a ferry service for passengers and goods that crossed the Channel from Three Hut Point (Gordon) to Sheepwash Bay, using a dinghy with oars and sails. He continued this ferry service for about 40 years.

In 1936 a Parliamentary Public Works Committee reported that it was not in favour of a vehicular Ferry Service between Bruny Island and mainland Tasmania.

George Robert Grant from Snug bought the ship *M.L. Taruna* in 1937 to operate as a ferry between Middleton and Simpson's Bay as part of Grant's Channel Bus and Ferry Service.

The *M.L. Gayclite*, sister ship to the *Taruna*, was brought into service in 1943. It commenced running between Snug and Dennes Point. With the Snug jetty in need of major repairs, the terminal was relocated for a short time at the Margate Fish Factory jetty before Tinderbox - Dennes Point was chosen as the crossing to serve North Bruny.

In 1948 the State Government decided that a vehicular ferry service be introduced with terminals at Tinderbox and Dennes Point.

Grant's passenger ferry service between Simpson's Bay and Middleton finally closed in 1950. Passenger traffic was directed to the Tinderbox - Dennes Point crossing with the ferry *Gayclite*.

An effort to establish a vehicular crossing between Tinderbox and Dennes Point was thwarted by a severe storm in 1950, and the project was brought to a halt. In 1953 the Government decided to move the proposed crossing from Tinderbox and Dennes Point to the much longer, but sheltered, route between Kettering and Barnes Bay.

The *Melba*, which was purchased in 1951, started the new service between Kettering and Barnes Bay in 1954. After five years in operation, the *Melba*, with a capacity of 18 cars, was becoming a problem to peak traffic, causing delays and frustration to residents and travellers.

The Government of the day purchased two replacement ferries from New Zealand. They were the *Ewen W. Alison* and *Alex Alison*. The latter unfortunately sank while being towed to Tasmania.

The *Ewen W. Alison* was refitted and renamed *Mangana* and was brought into service in March 1961. It had a capacity of 34 cars, nearly double that of the *Melba*, which was retained as a standby vessel.

Following the collapse of the Tasman Bridge in 1975, the Government purchased a vehicular ferry, the *Man On*, for the trans-Derwent crossing. It was refitted and renamed the *Harry O'May* and was converted for the Bruny Island service to replace the *Melba*, commencing in March 1978.

New terminals were constructed at Roberts Point and Kettering in 1983.

With the advanced ages of the two existing ferries, *Mangana* (60 years) and the *Harry O'May* (39 years), and the escalating maintenance cost of both vessels, the State Government decided on the construction of a new replacement vehicular/passenger ferry.

In December 1986 ship design consultants (Ship Technology Unit) were engaged to assist the then Marine Division of Transport Tasmania in the design of the new ferry.

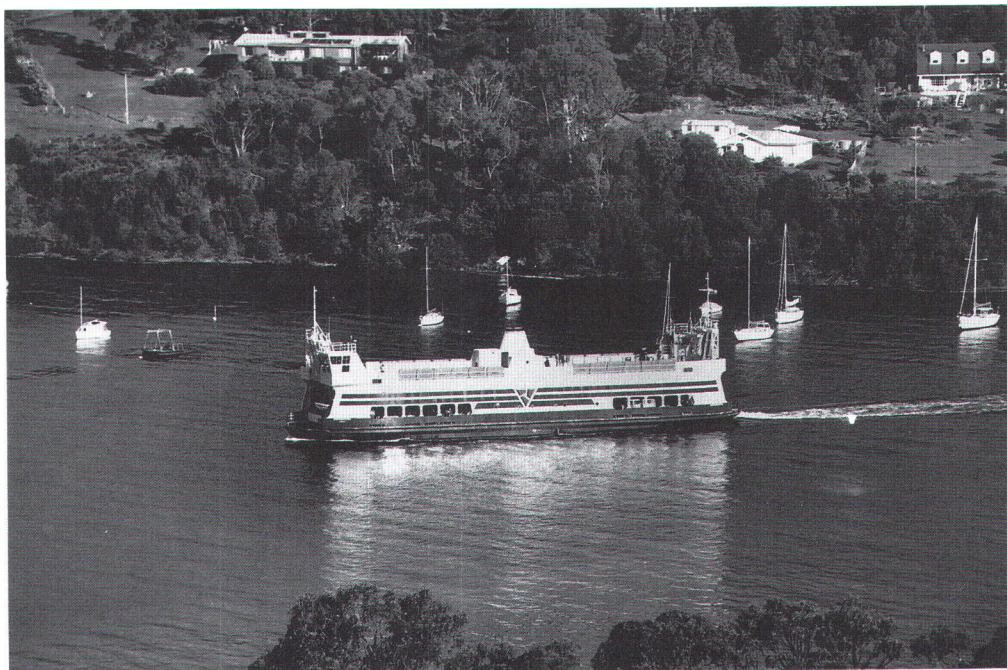
Tenders were called in February 1989 and in June a contract was signed with shipbuilder Launceston Marine Industries Pty Ltd for the construction of a new replacement Bruny Island vehicular/passenger ferry, the *Mirambeena*, at a net cost of \$5.2 million.

Mirambeena's Specifications

Length overall: 52 metres

Breadth moulded: 12.75 metres
Depth moulded: 3.7 metres
Load draft: 2.7 metres
Vehicle capacity: 74 medium-size vehicles
Passenger capacity: 400 persons
Service speed: 10 knots
Main engines: 2 x Calleson
Propulsion units: 2 x Voith Schneider

(Article courtesy of the Tasmanian Department of Roads and Transport.)



The Mirambeena. Photo: The Mercury

rigid trailers with only one axle, capable of carrying four containers at a time, and are loaded prior to the arrival of the ship.

When the ship arrives in port the MAFI trailers on the ship are towed off and the previously loaded MAFIs ashore are towed on. This greatly speeds up cargo handling rates compared to the STO-RO system and also uses less shore labour.

Following the withdrawal of its Queensland services ANL progressively phased out its 'Trader' vessels between 1985 and 1987. In early 1988 ANL lost a large contract for carrying paper for APPM to Brambles and sold the *Melbourne Trader*. Thus, in less than four years, ANL had reduced its operations in Tasmania from six ships to one, the *Bass Trader*. Brambles chartered the small Swedish RO-RO, the *Gute*, to help carry the increased volume of cargo on its Burnie-Melbourne service.

Currently Tasmania is served by nine regular general vessels operated by five shipping lines, as well as several special-purpose ships, such as the cement carrier *Goliath*. Of the ships recently introduced, the *Challenger B* has been replaced already by the *Tasmania B*, and ANL has introduced the *Searoad Mersey*. A replacement has

also been contracted to replace the TT-Line's *Abel Tasman*.

Ferries

Bass Strait Service

Record passenger figures highlighted a successful year for the TT-Line's ferry *Abel Tasman*. In the twelve months to June 1990, the TT-Line recorded an operating surplus of \$8.3 million. A total of 246 718 passengers travelled on the *Abel Tasman* during 1989-90, an increase of 14 per cent on the previous financial year. The number of vehicles carried increased by 6 per cent to 58 558.

A fast passenger service across Bass Strait became a reality with the launch in October 1990 of the 74 metre *SeaCat Tasmania*. The catamaran is capable of carrying 350 passengers and more than 80 cars on each trip. The trip takes four and a half hours from George Town, in Tasmania, to Port Welshpool, in Victoria. It is operated by Tasmanian Ferry Services. The *SeaCat* was designed and built by International Catamarans, of Prince of Wales Bay in Hobart.

19.6 BRUNY ISLAND FERRY 12 MONTHS TO 30 JUNE 1990

Trips	6 978
Motorcycles	486
Vehicles under 5m	53 482
Vehicles 5-6m	1 640
Vehicles 6-10m	3 446
Vehicles 10-14m	278
Vehicles 14-16m	310
Concession vehicles	44 056
Other vehicles	6
Total vehicles	103 704

(Source: Department of Roads & Transport, Annual Report 1989-90).

Bruny Island Service

Transport Tasmania recently purchased a new ferry for the Kettering to Roberts Point run connecting Bruny Island to the mainland. The *Mirambeena* replaced the *Mangana* which has been put up for sale. The *Harry O'May* has become the standby ferry.

19.7 BRUNY ISLAND FERRY VEHICLES CARRIED

Year	Total Vehicles
1985-86	89 078
1986-87	84 896
1987-88	87 622
1988-89	89 860
1989-90	103 690

(Source: Department of Roads and Transport, Annual Report 1989-90).

19.1.3 Air

Air transport provides a vital role in the maintenance and development of passenger and freight flows between Tasmania and the mainland - a role far more important than in other States, where alternative additional transport modes for interstate movement of passengers and freight exist.

Australian, Ansett, East-West, Eastern, Chartered Airlines of Australia and Kendall provide regular domestic services to and from Tasmania. Air New Zealand provides international flights

by flying regularly to Christchurch, and Airlines of Tasmania, Wilderness Air, Western Aviation and Tasair provide passenger, charter and tourist flights within the State. Airlines of Tasmania, Flinders Island Airways and Promair connect King and Flinders Islands and also provide services to Melbourne.

Hobart Airport is located 18 kilometres from the city and handles around 535 000 passengers each year. The airport has been developed to accommodate Boeing 747 aircraft. The runway is 2251 metres long and is served by modern radar navigation aids to provide all-weather capability. In 1988 the Federal Airports Corporation was vested with the operation of Hobart Airport as well as 16 other major airports throughout Australia, including Cambridge and Launceston. In 1989 a further six airports were added to the FAC network.

Launceston Airport is located some 16 kilometres south-east of Launceston city. It is the major freight-handling airport of Tasmania for Ipec, Ansett and Australian as well as charter and non-scheduled operators. This airport is ranked fifth in Australia for the movement of freight.

The airport is the base for the Royal Flying Doctor Service, and is used for commuter operations, flying training, light aircraft charter and other aerial-work operations.

Tasmania has nine other aerodromes, at Cambridge, Devonport, Flinders Island, King Island, Smithton, St Helens, Queenstown, Strahan and Wynyard. Devonport and Wynyard airports have runways large enough to carry jet aircraft and handle regular passenger services to Victoria. All of the others handle internal commuter, charter, private aircraft and some interstate freight services.

19.8 DOMESTIC AIR TRANSPORT, 1990

Airports	Aircraft movements	Passengers ('000)	Freight (tonnes)
Hobart	6 967	535	4 354
Launceston	6 976	318	24 700
Devonport	3 044	133	-
Total	16 987	986	29 054

(Source: Department of Transport and Communications, Annual Report 1990).

19.9 TASRAIL FREIGHT 1985-90 (^{'000 tonnes})

Year	Freight
1985-86	2 186
1986-87	2 214
1987-88	2 361
1988-89	2 293
1989-90	2 025

(Source: Australian National Railways Commission, Annual Report 1989-90).

19.1.4 Rail

On 1 July 1975 control of the State's railway system was transferred to the Commonwealth Government. All regular passenger train services in Tasmania ceased in 1978, as the railways had carried relatively few passengers for decades and budget constraints forced cutbacks in public expenditure. Today the State's rail system is used only to transport goods or to run an occasional tourist excursion.

Operational and financial responsibility for the Tasmanian railways was assumed by the Australian National Railways Commission in 1978. In 1985 the Commonwealth Government advised of future funding for the Tasmanian region, to be called Tasrail, with a contract for three years and requirements that certain achievements had to be met.

During 1989-90 financial year the locomotive fleet was further rationalised. This resulted in 44 Z-class locomotives being assigned to mainline tasks with eight lighter engines performing shunting duties, conducting services on the Derwent Valley line and operating the sole remaining vacuum-braked rail service between

19.10 TASRAIL FREIGHT GOODS CARRIED (^{'000})

Commodity	1988-89	1989-90
Woodchip logs	754.2	634.9
Other logs	270.4	214.2
Sawn timber	8.6	0.5
Coal	375.4	369.1
Cement	376.0	326.3
Containers	247.5	198.3
Sulphuric acid	131.2	126.6
Fertilizer	72.7	91.1
Minerals	56.6	64.0
Other goods	-	0.1
Total	2 292.6	2 025.1

(Source: Australian National Railways Commission, Annual Report 1989-90).

Railton and Devonport. The freight moved in the 10 years following 1978 had grown by 74 per cent. However, this tendency has reversed in the past two years.

The railways play a vital role in Tasmania's prosperity. In 1989-90 Tasrail moved two million tonnes, a decline of 13 per cent from the previous year. Tasrail aims to get bulk tonnage onto rail, thus making the highways safer for the general public and encouraging the tourist industry.

In 1988 the Federal Government agreed to continue to support rail operations in Tasmania for a further five years in order to ensure a measure of stability and predictability. Recently there have been many cost cutting and rationalising measures introduced which have seen a large decline in the local workforce.



Tasmanian steam train, circa 1900. Photo: Archives Office of Tasmania

19.2 TELECOMMUNICATIONS

Australia's telecommunications infrastructure is currently undergoing dramatic changes. In January 1989 Telecom became a corporation. At the same time areas that had previously been the exclusive preserve of Telecom, such as cabling and wiring of customer premises, PABX maintenance and telephone supply and maintenance, have been opened to private competition. The Australian Government is now in the process of opening the provision of actual calling services to at least one other provider.

Tasmania has obtained considerably upgraded facilities with the provision of large quantities of optical fibre lines in place of the traditional cables. By 1995 the target is to have the optical fibre transmission network linked around the nation. This includes the laying of an optical fibre submarine cable to Tasmania.

Recent new changes include the provision of 0055 Information Services calls. These generated 21.3 million calls in Australia with over 4000 services now being available. Pre-payment for phone calls is now available with the introduction of Phonocard for public phones. This is available in denominations of \$2, \$5, \$10 and \$20. Of more use to the general public is the bringing in of itemised accounts for STD, ISD and 0055. This enables consumers to check that all calls charged were made and will assist in preventing unnecessary complaints.

The Integrated Services Digital Network (ISDN) Macrolink commercial service allows voice, text, data, video and image services to be carried on one network. Recent efforts have led to the introduction of ISDN Microlink which provides identical facilities and flexibility for the lower volume user, with a lower cost structure.

19.3 POSTAL SERVICES

The first of July 1989 marked a major milestone in the development of the Australian postal service. Australia Post became a corporation on that date. The *Australian Postal Corporation Act* requires the provision of a letter service at a universal price and the

meeting of minimum financial targets. The Act also provides Australia Post with the freedom to offer a whole range of services and products not available under previous legislation.

Australia Post provides surface and airmail services, both within Australia and to and from other countries, for the carriage of letters, cards, aerogrammes, newspapers and parcels. It also operates an express courier service and electronic postal and money transfer services and sells a range of packaging products, postal stationery and philatelic items.

At 30 June 1990 Australia Post employed 1058 staff in Tasmania. This comprised 898 post office agents and assistants, as well as 160 mail contractors. There are 40 post offices and 170 post office agencies. Mail was distributed to 185 618 delivery points throughout the State during 1989-90; 169 326 households and 16 292 businesses.

19.4 RADIO AND TELEVISION SERVICES

Radio and television broadcasting fall within the jurisdiction of the Commonwealth Government and are the responsibility of the Minister for Transport and Communications.

The Australian broadcasting system consists of three types of services:

- national radio and television services provided by the ABC and SBS;
- commercial radio and television services provided by commercial companies under licence; and
- public radio services provided by non-profit making corporations under licence.

The *Broadcasting Act 1942* (as amended) governs the establishment and operation of commercial and public services. It also contains provisions relating to the SBS and the Australian Broadcasting Tribunal (ABT). The *Australian Broadcasting Corporation Act 1983* provides for the ABC. Applications for broadcasting licences and matters relating to their general renewal are handled by the ABT. Although Tasmania has only four television broadcasters, they hold a variety of licences between

19.11 RADIO STATIONS IN OPERATION AT 30 JUNE 1991

<i>Call Sign</i>	<i>Classification</i>	<i>Location</i>
7AD	Commercial	Devonport
7BU	Commercial	Burnie
7EX	Commercial	Launceston
7FG (a)	National	Fingal Valley
7HT	Commercial	Hobart
7LA	Commercial	Launceston
7NT	ABC	Launceston
7PB	ABC	Hobart
7QN (a)	ABC	Queenstown
7RN	ABC	Hobart
7SD	Commercial	Scottsdale
7SH (a)	ABC	St Helens
7XS	Commercial	Queenstown
7ZR	ABC	Hobart
7ABCFM	ABC	Hobart, Nth and East Tas.
7DBS	Public - Community	Wynyard
7HFC	Public - Community	Hobart
7HO	Commercial	Hobart
7JJJ	ABC	Hobart
7LTN	Public - Community	Launceston
7QN/T	ABC	Queenstown, Zeehan, Rosebery, Savage River, Waratah & Strahan
7RG	Public - Community	Geeveston
7THE	Public - Community	Hobart
7TTT	Commercial	Hobart
7WAY	Public - Community	Launceston
7XS/T	Commercial	Rosebery

(a) Transmits, in the main, programs originating from 7NT.

(Source: Department of Transport and Communications).

them. This is necessary due to the poor reception conditions in Tasmania. The ABC has 24 sites across the State, each of which has a relay transmitter at least. Southern Cross has 15 current sites in the north and TVT has eight in the south. These numbers and locations will change as aggregation progresses. SBS currently has only three, but this should also increase.

19.4.1 National Broadcasting Services

The ABC currently provides one television service nationally, four radio services (two AM and two FM) in the capital cities and two radio services (one AM and one FM) in regional areas (although not all areas are yet receiving ABC FM).

The ABC is a major user of the new Australian satellite system, Optus Communications (formerly Aussat), and this enables people to receive ABC television and three ABC radio services although they live in remote areas or areas in which it is extremely difficult to receive broadcasting signals by terrestrial means. However, reception via satellite will only be possible with the necessary equipment. It is planned that SBS services will be extended into the north of the State in 1993.

19.4.2 Commercial Broadcasting Services

A commercial radio or television licensee is required under the Broadcasting Act to undertake to provide an adequate and comprehensive service to people within the service area of the licensee and to encourage the use of Australian resources.

Whether a licensee has met the undertaking is a matter of judgement for the Tribunal after considering all relevant information, including views and comment from interested members of the public through the licensing process. Commercial broadcasters receive most of their income from the broadcasting of advertisements. Commercial broadcasting licensees are required to pay licence fees annually.

It is planned in the future to extend the services of both TVT Hobart and TNT North-East Tasmania to cover the whole State, thus providing all viewers with two competing commercial services. Commercial radio services on the FM band are also being extended throughout the State.

19.4.3 Public Broadcasting Services

Public radio services have expanded rapidly throughout Australia since 1978, when the then Minister announced policy guidelines for their development. From 12 stations in 1978, the sector now comprises over 70 stations. There are six public radio stations in Tasmania.

Funds for these services may come from a variety of sources including government and non-government grants, subscriptions and sponsorship announcements. Public radio services are essentially local in focus, and may program material which reflects the wide range of informational, cultural and educational interests in each service area.

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Chapter 20

TRADE

Tasmania is often described as the Three Per Cent State, because it represents that proportion of the Australian population. Tasmania's trading activity reinforces this image.

Tasmania's first recorded trading activity occurred in 1808 when a cargo of sugar arrived at the colony from Bengal. Exports began in 1812 when the *Cyclops* sailed for Sydney with a cargo of locally grown wheat.

In June 1813 ports were opened to commerce and trading began in Van Diemen's Land. Twenty thousand bushels of wheat were exported to Sydney in 1817. In 1819 wheat to the value of £4000 (\$8000) was exported and in 1820, 43 917 pounds (19 962 kg) of salted meat which was produced at the settlement of Hobart, was exported to Sydney.

During the 1820s the economy of the colony was becoming diversified even though it still remained very basic. Imports arrived from Britain, India, Mauritius and Batavia while exports were shipped to Britain and Sydney. In 1822 goods exported consisted of wheat, oil, whalebones, seal and kangaroo skins, logs of pine and beech, salt, wool, horses and hides. Barley, potatoes, whalebone, cedar logs and tallow were included in 1823.

In the *Statistical Returns of Van Diemen's Land 1835-38*, compiled from official records in the Colonial Secretary's office, it was recorded 'that the imports for the three years have increased 20 per cent, and the very pleasing fact that the exports for the same period have increased at the astonishing rate of 81 per cent, or from £320 679 (\$641 358), in 1835 to £581 475 (\$1 162 950) in 1838'.



Hobart wharves, circa 1910.

Photo: Archives Office of Tasmania

The most prominent import into Van Diemen's Land, during the early years of settlement, was livestock. By 1837 however, two years after the settlement of Port Phillip, livestock had become the major export line and, with wool, it dominated export trade.

During the 1840s exports dropped due to a slump in the price of the colony's staple commodity, wool. There was also a decline in the export of oil and whalebone which were main export commodity items. The largest increase in trade occurred with the British colonies during this period.

In 1842 the value of imports into Van Diemen's Land was a high £21 (\$42) per head

compared with only £2 10s (\$5) per head in Britain. The value of exports for the same year, per head of population was £10 (\$20) per head for Van Diemen's Land compared with only £2 (\$4) for Great Britain and Ireland. By the mid-1800s the value of trade, especially exports, had grown dramatically.

As the colony developed and progressed through the late 1800s, exporting locally produced commodities became increasingly important to the economy of the State.

By 1880 the value of exports had exceeded the value of imports. This balance of trade (excess of exports over imports) see-sawed over the following five decades, then stabilised over the period 1937-38 to 1948-49 with exports once again exceeding the value of imports. From 1949-50 to 1954-55 the balance fluctuated once again, but from 1955-56 the value of exports has consistently exceeded the value of imports. As a result of this healthy balance of trade the State plays a vital role as an earner of export income for Australia.

In 1989-90 the total value of exports from Tasmania was \$1474 million, an increase of nine per cent on 1988-89.

20.1 TASMANIA'S TRADING PARTNERS

From the earliest days of Tasmania's settlement the United Kingdom was the main overseas market for the State's exports. However, over the last 30 years Tasmania's overseas markets have changed markedly.

20.1.1 Market Changes

In 1957-58 Tasmania's major trading partners in terms of the value of goods exported were as follows:

• United Kingdom	\$18.6 million
• United States of America	\$4.0 million
• India	\$3.7 million
• Italy	\$2.8 million
• France	\$2.8 million
• Japan	\$2.8 million
• Federal Republic of Germany	\$2.4 million

A decade later Thailand and the Philippines had also become significant markets.

20.1 TASMANIAN EXPORTS TO JAPAN, 1989-90

Commodity	Value (\$'000)
Beverages	114
Cereals and cereal preparations	328
Coffee, tea, cocoa, spices and by-products	137
Crude animal and vegetable materials	956
Dairy products and birds' eggs	12 855
Electrical machinery, apparatus & appliances	173
Fish, crustaceans and molluscs	37 931
Inorganic chemicals	4 886
Meat and meat preparations	10 882
Metalliferous ores and metal scrap	142 851
Miscellaneous edible products n.e.c.	280
Non-ferrous metals	69 933
Office machines and ADP machines	137
Pulp and waste paper	231
Raw hides and skins	2 392
Road vehicles	1 501
Textile fibres and waste	13 785
Textile yarns and fabrics	477
Timber	297
Transport equipment (except road vehicles)	233
Vegetables and fruit	665
Restricted items (a)	190 042
Other items	273
Total	491 359

(a) Comprises the value of items for which details are not available for separate publication, mainly woodchips and aluminium.

During the late 1960s Japan became the principal recipient of Tasmanian exports when it substantially increased its iron-ore requirements. In the twelve months to June 1968, Japanese importers spent a total of \$9 million on Tasmanian goods and the following year this had jumped to \$17 million, most of which was for iron-ore.

The new ranking of Japan, United Kingdom and the United States of America persisted until 1972-73 when the UK slipped behind the USA. In 1975-76 the United Kingdom was replaced by Indonesia. Malaysia became an important market in 1976-77 when it increased its intake of tin concentrates from Tasmania.

For 1989-90 Tasmania's major trading partners in terms of value of goods exported had become:

• Japan	\$491.4 million
• United States of America	\$188.7 million
• Malaysia	\$104.5 million
• Taiwan	\$84.2 million
• Germany, Federal Republic	\$65.3 million
• United Kingdom	\$56.7 million

• Indonesia	\$52.1 million
• New Zealand	\$43.4 million
• Singapore	\$42.4 million
• South Korea	\$39.8 million
• Thailand	\$36.4 million
• Hong Kong	\$34.4 million

20.1.2 Main Trading Partners

The ASEAN (Association of South East Asian Nations) countries took 17 per cent of Tasmania's overseas exports in 1989-90. Main countries within this grouping, for Tasmanian exports were Malaysia, Indonesia, Singapore and Thailand. Japan is still the main single nation to which Tasmania exports. In 1989-90 Japan received a third of Tasmania's exports. Other main countries which Tasmania exported goods to included the USA, \$189 million (13 per cent of total overseas exports), Germany \$65.3 million, (four per cent), and the UK, \$56.7 million (four per cent).

Japan

In 1989-90 Tasmania exported a total of \$491 million worth of goods to Japan. This repre-

sented a third of the total value of Tasmania's overseas exports. Most of these exports consisted of relatively unprocessed goods.

The Association of South East Asian Nations (ASEAN)

The ASEAN countries (Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand), are major purchasers of Tasmanian goods. In 1989-90 they took \$247.8 million worth of goods which was 16.8 per cent of Tasmania's exports. This compares with \$252.8 million (18.6 per cent) in 1988-89. There is a real decline in trade with Indonesia (from \$71.7 million to \$52.1 million) and the Philippines (from \$21.9 million to \$12.1 million) and increases in exports to Malaysia (from \$96.1 million to \$104.5 million), Singapore (from \$35.4 million to \$42.4 million) and Thailand (\$27.5 million to \$36.4 million). The decline, in percentage terms, is mainly due to an expansion in trade with Europe.

20.2 TASMANIAN EXPORTS TO ASEAN COUNTRIES, 1989-90

Commodity	Value (\$'000)
Coffee, tea, cocoa, spices & by-products	621
Dairy products and birds' eggs	7 981
Dyeing, tanning and colouring materials	10 536
Electrical machinery, apparatus & appliances	3 077
Feed stuff for animals (excl. unmilled cereals)	1 003
Fish, crustaceans and molluscs	6 316
General industry machinery & parts	112
Inorganic chemicals	124
Iron and steel	11 882
Meat and meat preparations	489
Metalliferous ores and metal scrap	77 549
Miscellaneous edible products n.e.c.	5 112
Miscellaneous manufactured articles n.e.c.	598
Non-ferrous metals	100 879
Paper, paperboard & manufactures thereof	6 665
Power generating machinery and equipment	144
Textile yarn and fabrics	103
Transport equipment (excl. road vehicles)	2 343
Vegetables and fruit	7 430
Restricted items (a)	4 553
Other items	305
Total	247 822

(a) Comprises items for which details are not publishable.

20.3 TASMANIAN EXPORTS TO THE EEC 1989-90

Commodity	Value (\$'000)
Animal oils & fats	1067
Crude animal & vegetable products n.e.c.	3055
Dairy products & birds' eggs	3582
Electrical machinery, apparatus & appliances	301
Essential oils & resinoids	530
Fish, crustaceans & molluscs	1574
General industrial machinery & parts	727
Inorganic chemicals	506
Machinery specialised for particular industries	101
Meat & meat preparations	1898
Medical & pharmaceutical products	889
Metalliferous ores & metal scrap	69 073
Miscellaneous manufactured articles n.e.c.	424
Non-ferrous metals	2214
Oil seeds & oleaginous fruit	885
Power generating machinery & equipment	372
Raw hides & skins	7101
Textile fibres & waste	87 622
Textile yarns & fabrics	3860
Timber	2198
Transport equipment (excl. road vehicles)	17 329
Vegetables & fruit	23 440
Restricted items (a)	2476
Other items	282
Total	231 507

(a) Comprises items for which details are not publishable.

The European Economic Community

After Japan and ASEAN, Europe is Tasmania's third largest market. In 1989-90 it was worth \$232 million, which is 15.7 per cent of our trade.

United States of America

Trade with the United States of America is worth \$188.7 million, which represents 12.8 per cent of Tasmania's overseas exports. The major item traded is zinc. Metals, at various stages of processing, make up 59 per cent of the goods sent to the USA. In contrast with our other major trading partners, there is a higher degree of entry (by value) for Tasmanian finished products such as linen, machinery and textiles. Goods that are highly value-added make up about eight per cent of Tasmania's export trade to the USA.

Taiwan

Trade with Taiwan centres around raw materials with only 3.3 per cent being processed beyond the 'refined' stage and this is mainly in the food products area. Taiwan represents \$84.2 million, or 5.7 per cent of Tasmania's external trade.

20.4 TASMANIAN EXPORTS TO USA, 1989-90

<i>Commodity</i>	<i>Value (\$'000)</i>
Crude animal and vegetable products	136
Dairy products and birds' eggs	3 451
Fish, crustaceans and molluscs	37 119
Iron and steel	36 585
General industrial machinery and parts	591
Machinery specialised for particular industries	459
Meat and meat preparations	21 667
Medical and pharmaceutical products	329
Metalliferous ores and metal scrap	7 667
Miscellaneous edible products n.e.c.	646
Miscellaneous manufactured articles n.e.c.	6 126
Non-ferrous metals	50 171
Oil seeds and oleaginous fruit	1 793
Power generating machinery and equipment	167
Professional and scientific apparatus	206
Textile fibres and waste	8 797
Textile yarns and fabrics	6 599
Timber	502
Restricted items (a)	5 350
Other items	375
Total	188 735

(a) Comprises items for which details are not publishable.

20.2 VALUE OF OVERSEAS TRADE

On the surface, it appears that Tasmania has a considerable surplus in foreign trade. However, much of the overseas imports to Tasmania enter through mainland ports and do not get debited against Tasmania as imports. Hence, comparison of foreign exports and imports to determine a 'balance of trade' for the State is not a valid exercise.

20.5 TASMANIAN EXPORTS TO TAIWAN, 1989-90

<i>Commodity</i>	<i>Value (\$'000)</i>
Dairy products and birds' eggs	5 116
Dyeing, tanning and colouring materials	918
Electrical machinery, apparatus & appliances	2 594
Feed stuff for animals (excl. unmilled cereals)	405
Fish, crustaceans and molluscs	12 015
Inorganic chemicals	247
Iron and steel	200
Meat and meat preparations	2 525
Metalliferous ores and metal scrap	394
Miscellaneous edible products n.e.c.	1 716
Non-ferrous metals	46 216
Pulp and waste paper	650
Raw hides and skins	385
Textile fibres and waste	551
Restricted items (a)	9 946
Other items	344
Total	84 220

(a) Comprises items for which details are not publishable.

20.3 COMMODITIES TRADED

20.3.1 Commodities Exported

Tasmania produces a wide range of goods although our international exports are basically of raw materials and are dominated by a few commodities. The top six exports provide 66.0 per cent of the total value of exports. Some of these materials are partly processed or refined within the State (for example zinc), whilst others (such as woodchips) have a very low value-

20.6 VALUE OF FOREIGN TRADE, 1989-90 (\$'000)

<i>Country or country group</i>	<i>Exports</i>	<i>Imports</i>
Association of South East Asian Nations (ASEAN) -		
Brunei	240	-
Indonesia	52 110	480
Malaysia	104 549	1 614
Phillipines	12 145	945
Singapore	42 398	28 975
Thailand	36 381	2 235
ASEAN Total	247 822	34 249
European Economic Community (EEC) -		
Belgium-Luxembourg	29 207	423
Denmark	2 124	1 980
France	14 587	11 425
Germany, Federal Republic	65 321	14 864
Greece	3 170	3 068
Ireland	615	612
Italy	26 282	9 901
Netherlands	29 854	5 724
Portugal	852	15
Spain	2 787	627
United Kingdom	56 709	22 836
EEC Total	231 507	71 475
Other major trading partners -		
Canada	9 754	39 059
China (excluding Taiwan)	4 173	7 074
Hong Kong	34 381	1 376
India	11 764	1 073
Japan	491 359	40 498
Korea, Republic of	39 812	5 291
New Zealand	43 355	32 914
Taiwan	84 220	3 950
United States of America	188 735	73 811
Other countries	87 453	42 145
World Total	1 474 335	352 915

added component. There are encouraging signs with the growth of very high quality food production and processing industries which have a very good potential market internationally.

Excellent examples of these are fine cheese and onion products. This is due to their freedom from environmental pollutants and disease-free state in comparison with their mainly European competitors.

Some Tasmanian manufacturers have also started selling quality goods overseas (for example winches, boats, alloy wheels, boots and radio aerials). Currently these manufactured items are only a small proportion of the processed goods exported. At present processed goods make up \$486.1 million (33 per cent) of the major exports. Of these, \$55.4 million (3.8 per cent of all exports) were processed into a finished form. Most sales of these high value-added products are to New Zealand and the Pacific Islands. Entry to the more restricted markets of Europe, East Asia and the USA is difficult.

20.3.2 Commodities Imported

As would be expected of any modern diverse society, Tasmania imports a wide range of goods. Unlike exports, where a few major items provide the majority of the value, the top five import categories make up only 48.1 per cent of their respective total. Most items that are imported direct to Tasmania are items of capital equipment and are thus income generating. Another large group of goods are imported for immediate further downstream processing for either domestic consumption or re-export. Examples of these goods include wood pulp and alumina.

There is a group of items, mostly for domestic household consumption but also including automatic data processing equipment and other goods, which is under-reported. These goods frequently arrive in another State in bulk and are broken up and sent on by a wholesaler.

20.4 TASMANIAN PORTS

Tasmania has a number of ports capable of accommodating overseas vessels; they are situated on the Derwent and Huon rivers in the south (Hobart and Port Huon); in Spring Bay on the east coast; on the Tamar River in the north (Inspection Head, Long Reach and Bell Bay); on the Mersey River (Devonport), in Emu Bay (Burnie) and at Port Latta, all in the north-west.

20.7 TASMANIAN OVERSEAS EXPORTS, 1989-90

Commodity	Value (\$'000)
Animal oils and fats	2 954
Articles of apparel and clothing accessories	116
Beverages	134
Cereals and cereal preparations	352
Chemical materials and products n.e.c.	111
Coffee, tea, cocoa, spices and manufactures thereof	1 081
Crude animal and vegetable products n.e.c.	4 567
Dairy products and birds' eggs	35 139
Dyeing, tanning and colouring material	23 338
Electrical machinery, apparatus & appliances	12 158
Essential oils and resinoids	612
Feed stuff for animals (excl. unmilled cereals)	1 978
Fertilisers (excl. crude)	282
Fish, crustaceans and molluscs	103 274
Footwear	1 766
General industrial machinery and parts n.e.c.	2 097
Inorganic chemicals	9 074
Iron and steel	53 180
Live animals (not fish)	924
Machinery specialised for particular industries	1 616
Manufactures of metals n.e.c.	580
Meat and meat preparations	44 412
Medical and pharmaceutical products	3 640
Metalliferous ores and metal scrap	316 732
Miscellaneous edible products n.e.c.	9 639
Miscellaneous manufactured articles n.e.c.	12 186
Non-ferrous metals	341 395
Oil seeds and oleaginous fruit	2 903
Paper, paperboard and articles of paper pulp, of paper or of paperboard	22 194
Petroleum, petroleum products and related materials	385
Power generating machinery and equipment	1 590
Professional and scientific apparatus n.e.c.	792
Pulp and waste paper	4 278
Raw hides and skins	16 381
Road vehicles	1 603
Textile fibres and waste	114 582
Textile yarns and fabrics	13 064
Timber	3 106
Transport equipment (except road vehicles)	21 154
Vegetables and fruit	36 935
Restricted items (a)	250 771
Other items	1 262
Total(b)	1 474 335

(a) Comprises items for which details are not available for separate publication, mainly comprised of woodchips and aluminium.
(b) Totals may not add due to rounding.

(Source: ABS Catalogue No. 5402.6).

depth of 16 metres nearly one and a half kilometres off-shore.

There are four main Port Authorities servicing these areas. Interstate and intrastate trade passes through the main ports of Hobart, Launceston, Devonport and Burnie as well as through the smaller ports at Strahan, Stanley, Ulverstone, Currie (on King Island) and Lady Barron (on Flinders Island).

A feature of Tasmanian trade is that, whilst the main airports are controlled by the Federal Airports Corporation, the airports at Wynyard (Burnie) and Devonport are controlled by local Port Authorities, giving each of these Authorities responsibility for an integrated network.

20.4.1 Hobart

The Hobart Marine Board controls about two-thirds of Tasmania's coastline from Cape Portland on the north coast to Temma Harbour in the west. It is responsible for operations in the major ports of Hobart, Port Huon and Spring Bay (at Triabunna) as well as minor (mainly fishing) ports at Bicheno, Strahan, St Helens, Scamander and Dover, amongst others.

Port improvements, either underway or completed, include: an upgrading of passenger services on Princes No. 2 Wharf to accommodate increasing cruise ship business, a new oil handling wharf at Self's Point, lengthening of the Domain Slip No. 2, an upgrading of all Derwent River navigation beacons from the Bowen Bridge to New Norfolk, and new flashing lights at Spring Bay, Zuidpool Rock, Norfolk Bay and Great Oyster Bay.

Hobart provides three roll-on, roll-off berths, five general cargo berths, two berths suitable for

20.8 TASMANIAN SEAPORT TRADE, 1989-90 (revenue tonnes)

Major ports	Inwards	Outwards	Total
Hobart	1 687 286	1 712 270	3 399 556
Launceston	2 111 777	2 842 539	4 954 316
Devonport	1 018 418	1 118 379	2 136 797
Burnie	1 840 564	2 042 991	3 883 555
Total	6 658 045	7 716 179	14 374 224

(Source: Annual Reports from the relevant port authorities).

All of these ports provide berths of a depth of nine metres or greater. Port Latta provides a

20.9 TASMANIAN OVERSEAS IMPORTS, 1989-90

Commodity	Value (\$'000)
Articles of apparel and clothing accessories	783
Chemical materials and products n.e.c.	4 939
Chemicals (inorganic)	15 656
Chemicals (organic)	2 487
Coal, coke and briquettes	4 002
Coffee, tea, cocoa, spices & manufactures thereof	25 070
Cork and wood manufactures (excl. furniture)	1 307
Crude animal and vegetable products	2 124
Dairy products and birds' eggs	621
Dyeing, tanning and colouring material	1 378
Electrical machinery, apparatus & appliances	9 212
Fish, crustaceans and molluscs	5 673
Feed stuff for animals (excl. unmilled cereals)	1 215
Fertilisers (crude)	10 676
Fertilisers (excl. crude)	6 170
Furniture and parts thereof; bedding, mattresses etc.	1 024
Footwear	278
General industrial machinery and parts n.e.c.	17 531
Iron and steel	4 243
Leather and leather manufactures	436
Machinery specialised for particular industries	22 926
Manufactures of non-metals n.e.c.	5 056
Manufactures of metals n.e.c.	6 139
Metalliferous ores and metal scrap	4 069
Metal working machinery	1 578
Miscellaneous manufactured articles	8 362
Miscellaneous edible products	691
Non-ferrous metals	5 601
Office machines and ADP machines	1 018
Paper, paperboard and articles of paper pulp, of paper or of paperboard	3 233
Pulp and waste paper	49 913
Petroleum, petroleum products & related materials	48 528
Plastics in primary forms	1 596
Plastics in non-primary forms	663
Power generating machinery and equipment	11 015
Professional, scientific & controlling instruments & apparatus n.e.c.	2 048
Rubber manufactures n.e.c.	8 260
Road vehicles	23 183
Sugars, sugar preparations and honey	1 390
Textile fibres and waste	3 252
Textile yarns and fabrics	16 706
Telecommunications and sound recording and reproducing apparatus and equipment	747
Timber	2 807
Transport equipment (excl. road vehicles)	1 504
Travel goods, handbags and similar containers	288
Vegetables and fruit	4 268
Restricted items (a)	1 463
Other items	1 791
Total(b)	352 915

(a) Comprises items for which details are not publishable.

(b) Totals may not add due to rounding.

(Source: ABS Catalogue No. 5402.6).

container operations or general cargo, a bulk wheat berth and a bulk petroleum berth. In addition there are two docks (Constitution and Victoria) for handling fishing vessels and recreational craft and three slips capable of handling vessels of up to 1200 tonnes. Hobart has expanded its historical role of maintenance and supply for pelagic fishing and Antarctic supply ships. The *Aurora Australis*, Australia's new Antarctic vessel, is registered here.

Port Huon provides two general cargo and fruit handling berths and a woodchip berth, and Triabunna (Spring Bay) has a woodchip handling berth. Other private facilities also exist.

The trade of boat building has recently been revived within the Hobart area with several large craft undergoing construction for international and local buyers. Of particular importance is the new generation of wave-piercing catamarans which have the potential to radically change ferry services around the world. Other boat builders produce smaller fibreglass catamarans and both modern and traditional sailing craft.

During 1989-90 Hobart was visited by 504 ships from 24 countries, an increase of 14 vessels from the previous year.

20.4.2 Launceston

The Port of Launceston is situated on the Tamar River. At its mouth, deep water and broad expanses of river provide a valuable natural harbour. In this area, encompassing the anchorages of Bell Bay, Inspection Head and Long Reach, are located the major activities of the Port. A tidal range of up to 3.6 metres creates strong tidal currents which, by natural scouring, eliminate the need for any maintenance dredging in the lower reaches of the river.

A wide variety of functions are fulfilled within the Tamar River area. The Australian Maritime College has facilities at Beauty Point for training crew for fishing vessels and international and domestic shipping operators. It has also recently completed a towing tank for hull design testing. This facility is of world class standard and has already been used for the new generation of Australian boats preparing for the America's Cup. Private firms in the area are engaged in the maintenance and construction of boats for domestic and overseas markets.

In 1989, the Port of Launceston Authority moved into new premises, which are

20.10 QUANTITY OF INTERSTATE EXPORTS (EXCLUDING FOREIGN TRADE) (a) (tonnes) (b)

<i>Airport of exit</i>	1989-90	1990-91
Launceston	3 157	2 788
Hobart	1 435	1 281
Other	193	465
Total	4 785	4 534

(a) Figures do not include: mail and parcel post, excess baggage, returns and non-valued items such as inter-plant transfers as well as merchandise items with a known final overseas destination.

(b) Does not include the weight of those items not aggregated by weight (e.g. oysters, clothing, footwear).

(Source: ABS Catalogue No. 1303.6).

downstream from the city, at Bell Bay. George Town, near Bell Bay, is the southern terminus of the Bass Strait catamaran service with a new terminal being completed there. The harbour was visited by 445 trading vessels during the year. The main goods handled through the Port included: alumina and aluminium, manganese ore and sinter, fuel oil, woodchips, frozen vegetables and general cargo.

20.4.3 Devonport

The Port of Devonport is situated on the Mersey River within two kilometres of the coast. The entrance is sheltered by Mersey Bluff on the west and by a retaining wall extending over half a kilometre northward from the eastern shore of the river. The river was always a natural harbour for small craft, and its development by extensive dredging and engineering works has resulted in a secure harbour for larger ships.

Although originally a general port, in recent years there has been a concentration on service-

20.11 VALUE OF INTERSTATE EXPORTS (EXCLUDING FOREIGN TRADE) (\$'000)

<i>Airport of exit</i>	1989-90	1990-91
Launceston	85 883	66 920
Hobart	25 107	24 490
Other	1 222	4 308
Total	112 212	95 718

(Source: ABS Catalogue No. 1303.6).

20.12 VALUE OF INTERSTATE EXPORTS, (EXCLUDING FOREIGN TRADE) BY AIR, TASMANIA (\$'000)

<i>Commodity</i>	1989-90	1990-91
Molluscs, shellfish, etc.	473	1 805
Crayfish	4 112	3 077
Trawlfish	137	109
Trout and salmon	7 444	8 594
Other fish	1 815	3 249
Meats	481	264
Other food, crude animal and vegetable products	11 070	11 259
Metal manufactures	15 723	14 259
Printed matter	2 584	2 301
Textiles, yarns and fabrics	33 586	(a)
Other manufactured goods (a)	34 787	50 800
Total	112 212	95 718

(a) Due to confidentiality requirements, this data cannot be segregated further.

(Source: ABS Catalogue No. 1303.6).

ing a few major users, such as the TT Line's *Abel Tasman*, which carried 246 533 passengers in 1989-90. It also carried 59 148 vehicles and 9083 cargo units.

In addition the building of cold stores, to facilitate trade in vegetables, and bulk handling facilities for cement, have greatly increased the usage of the port. Recent Port developments include: an upgrading of No. 2 wharf, a start on the building of No. 3 wharf, which is an extended berth for roll-on/roll-off ships, and the introduction of the new Searoad service by ANL.

20.4.4 Burnie

The ports of Hobart, Launceston and Devonport all lie within the shelter of rivers, but the Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackman Point. Protection from the potentially rough waters of Bass Strait is afforded by two large breakwaters. Burnie is a deep-water port with no tidal restrictions except occasionally for the larger vessels, and is virtually fog-free. It is available for operation 24 hours every day and vessels can be at full speed 20 minutes after departure. All wharves are connected to the State railway system as well as a private track from the west coast area.

The Burnie Port Authority recently completed a harbour deepening program to facilitate usage

by large container ships. This was tested by the visit of the *Australian Venture*, with a draft of 11.8 metres. Other developments include: the extensive renovation of wharf facilities leased by Brambles, commencement of the reclamation of 22.5 hectares of land and new works facilities. Feasibility studies were also done on wharf extensions and improved bulk-handling facilities.

During 1989-90 cargo throughput increased by 13 per cent over the previous year. This came about through 535 visits from vessels. The main goods shipped include mineral concentrates, fruit and vegetables, general goods and paper and timber products. Burnie is the main Tasmanian port for container trans-shipment, and it handles a large quantity of the interstate general goods trade.

20.5 INTERSTATE TRADE

As well as trading internationally, Tasmania trades very significantly with the mainland. Goods leave the State by both sea, and increasingly, air.

Goods sent by air include mainly the newer, high value-added industries; pharmaceuticals, salmon and trout, and other specialist foodstuffs. It is interesting to note, however, that with the increased use of just-in-time stock control, more basic industrial goods and even textiles, yarns, clothing and footwear (all of which have a high value per kilogram) are more effectively sent by air. This, of course, makes Tasmanian manufacture more dependent on uninterrupted traffic flow and vulnerable to stoppages. Sea-trade, by a long standing agreement with maritime unions, has been exempted from industrial disputes in recognition of the vulnerable nature of Tasmania's economy. This vulnerability has been shown with the fall-out from a prolonged airlines dispute in 1989-90. Both tonnage and value of air trade declined compared with the figures for the previous year.

The large number of small to medium sized businesses which failed during, or immediately after, this dispute can be at least partly blamed on their being cut off from their source of supplies or their markets.

NOTE: Detailed figures on all of Tasmania's interstate trade are not kept. Some data can be obtained from Port Authorities and details of the expanding air export sector are available.

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Chapter 21

COMMERCE

Commerce makes an important contribution to the Tasmanian economy. In terms of Gross Domestic Product, the contribution of wholesale and retail trade is surpassed only by public administration, defence and community services, and manufacturing. But employment in commerce has grown much more slowly in Tasmania than in Australia as a whole in the last decade.

The term 'commerce' is usually taken to cover wholesale and retail trade, and financial services such as banking and insurance. In terms of broad Australian Standard Industrial Classification (ASIC) division, the industries covered by 'commerce' are usually taken to be wholesale and retail trade (Division F), and finance, property and business services (Division I). At the two-digit ASIC subdivision, 'commerce' is taken to be wholesale trade (47), retail trade (48), finances and investment (61), insurance and services to insurance (62), and property and business services (63).

21.1 COMMERCE IN THE 1980s

21.1.1 Relative Importance

(This section has been contributed by Dr Alf Hagger of the University of Tasmania's Centre for Regional Economic Analysis (CREA).)

On the latest figures (1989-90), commerce contributes 18.4 per cent to Tasmania's Gross Domestic Product (GDP). Wholesale and retail trade contributes 13.1 per cent and finance, property and business services 5.3 per cent.



Corner of Liverpool and Elizabeth Streets, Hobart Town, 1870.

Photo: Archives Office of Tasmania

In terms of GDP contribution, wholesale and retail trade is the State's third most important broad ASIC subdivision (industry). Only the subdivisions for manufacturing (19.2 per cent of GDP) and public administration, defence and community services (18.7 per cent of GDP) are more important.

The finance, property and business services subdivision is at the other end of the scale. The only ASIC subdivisions with a smaller GDP

contribution are mining (3.94 per cent), recreation, personal and other services (4.48 per cent), electricity, gas and water (5.05 per cent) and general government (3.01 per cent).

Wholesale and retail trade plays much the same role in the Tasmanian economy as it does in the Australian economy as a whole. In 1989-90 wholesale and retail trade contributed 14.9 per cent to Australia's GDP, compared with 13.1 per cent for Tasmania.

The position of finance, property and business services is quite different. In 1989-90 finance contributed 9.9 per cent to Australia's GDP. The Tasmanian figure was only 5.3 per cent. Therefore, in terms of GDP, finance is roughly 100 per cent more important to the Australian economy than to the Tasmanian economy.

21.1.2 Growth

The best measure of growth in Tasmania's commerce sector would be the average annual percentage increase in the real GDP of wholesale and retail trade, and finance, property and business services combined. Unfortunately, no such measure can be calculated because there is no industry breakdown for Tasmania's real GDP.

The next best measure is the rate of growth of employment in the sector. Between August 1980 and August 1990 the average increase in employment in wholesale and retail trade was 1.6 per cent per annum. The figure for finance, property and business services was 2.0 per cent per annum and the figure for commerce as a whole was 1.7 per cent per annum. Over the same period, aggregate employment increased at the rate of 1.25 per cent per annum. Thus, employment in commerce has increased more rapidly than aggregate employment. As a consequence, the industry's share of aggregate employment has increased.

Comparisons with the nation as a whole are also of interest. Since 1980 commerce has grown much more rapidly in the country as a whole than in Tasmania. Between August 1980 and August 1990 employment in wholesale and retail trade grew at an average rate of 5.1 per cent per annum in Australia compared with Tasmania's 1.7 per cent per annum. For finance, property and business services the comparison was 5.8 per cent per annum for Australia and 2.0 per cent per annum for Tasmania.

During the 1980s female employment grew much more rapidly than male employment. In the commerce sector the growth rate of female employment over the period August 1980 to August 1990 was 3.2 per cent per annum for wholesale and retail trade, and 2.3 per cent per annum for finance, property and business services. The corresponding figures for male employment were 0.4 per cent per annum and 1.6 per cent per annum.

21.2 PRIVATE FINANCE

Tasmania has not been spared from the recession which has affected the rest of Australia.

Figures from commitments of lease finance and commercial finance all indicate a significant slowdown compared with figures from two years previously. Clearly, business expectations about the future are pessimistic, affecting willingness and ability to service business debt.

Figures for personal finance show relatively less slowdown in this period. Apparently, individuals have only marginally lowered their expectations.

21.2.1 Personal Finance

The figures in this section relate to statistics of personal finance commitments made by significant lenders to individuals for their own personal use.

The purpose of this finance is mostly for the purchase of used and new cars. Other goods and services purchased include other vehicles, blocks of land, and alterations to dwellings.

In Tasmania, banks provide the majority of personal finance, ahead of credit societies and finance companies.

For the period April 1989 to June 1991 personal finance lendings have averaged slightly more than \$30 million per month. However, for the first four months of 1991, three of the four months were less than \$30 million.

During this time Australian personal finance commitments averaged \$1700 million per month. As a proportion of Australian commitments, Tasmanian commitments were typically about 1.8 per cent.

21.1 PERSONAL FINANCE, TASMANIA (\$m)

Month	Type of lender				Total
	Banks	Credit co-operatives	Finance companies	Others	
1989 -					
April	18.9	7.6	5.8	0.2	32.5
May	24.2	7.1	6.1	0.2	37.6
June	16.5	6.5	5.6	0.2	28.8
July	21.2	5.8	5.2	0.3	32.4
August	26.4	6.2	6.3	0.1	39.0
September	18.5	6.0	6.7	0.2	31.5
October	16.6	6.7	6.0	0.2	29.4
November	19.5	7.1	6.4	0.2	33.2
December	18.2	6.7	7.5	0.2	32.6
1990 -					
January	18.6	5.9	6.7	0.1	31.2
February	18.6	5.4	6.4	0.1	30.5
March	21.4	7.8	7.1	0.2	36.5
April	23.7	6.3	5.8	0.2	35.9
May	29.0	7.5	7.4	0.1	44.1
June	20.2	6.3	5.9	0.3	32.7
July	18.5	6.2	13.8	0.1	38.7
August	20.2	6.2	7.1	0.1	33.6
September	18.4	5.5	6.2	0.3	30.4
October	19.7	6.5	6.7	0.1	33.0
November	18.4	6.4	6.7	0.1	31.6
December	12.4	6.6	7.5	0.1	26.5
1991 -					
January	16.2	5.6	5.5	-	27.3
February	15.7	6.1	5.2	0.2	27.2
March	21.0	6.9	5.4	0.2	33.5
April	16.6	6.2	4.2	0.2	27.2
May	23.4	8.0	5.5	0.3	37.2
June	17.0	10.6	4.4	0.3	32.3

(Source: ABS Catalogue No. 5642.0).

21.2.2 Housing Finance

Housing finance for owner occupation in Tasmania for the 13 months July 1990 to July 1991 increased from less than \$30 million to more than \$40 million per month. The total number of dwelling units financed increased from 505 to more than 800.

For Australia in July 1991 the total amount of housing finance was \$2529.1 million while the number of dwelling units financed was 33 034. Seasonally adjusted figures for housing finance show that the highest monthly value was approximately \$2368 million in July 1991. The lowest seasonally adjusted figure for housing finance was in October 1989 when only approximately \$1400 million was committed.

21.2 DWELLING UNITS FINANCED, TASMANIA

Month	No.	\$m
1990 -		
July	505	23.6
August	690	30.5
September	632	30.3
October	699	32.6
November	706	32.4
December	476	23.2
1991 -		
January	624	32.7
February	642	30.9
March	725	33.3
April	668	33.0
May	868	42.5
June	755	37.5
July	868	42.8

(Source: ABS Catalogue No. 5609.0).

21.2.3 Commercial Finance

These figures relate to statistics of commercial finance commitments made by significant lenders to government, private and public enterprises, and non-profit organisations. They also include commitments to individuals for investment and business purposes.

21.3 COMMERCIAL FINANCE, TASMANIA (\$m)			
Month	Type of lender		Total
	Banks	Finance companies etc.	
1989 -			
April	103.1	8.4	111.4
May	105.9	6.8	112.7
June	94.1	7.9	101.9
July	74.2	11.8	86.1
August	86.0	6.5	92.5
September	71.4	5.0	76.4
October	91.2	6.6	97.8
November	83.7	8.1	91.8
December	51.4	5.0	56.4
1990 -			
January	81.1	4.7	85.7
February	57.6	5.7	63.3
March	58.5	5.1	63.6
April	71.5	6.8	78.3
May	83.9	10.2	94.1
June	86.7	8.8	95.5
July	72.8	17.1	89.9
August	73.5	9.9	83.5
September	74.5	8.5	83.0
October	76.1	10.4	86.5
November	52.4	8.5	60.8
December	52.2	6.5	58.7
1991 -			
January	59.7	5.7	65.4
February	54.7	6.1	60.7
March	76.2	6.9	83.1
April	50.6	10.4	61.1
May	57.4	6.7	64.1
June	60.2	5.4	65.6

(Source: ABS Catalogue No. 5643.0).

In the two year period since April 1989 total commercial finance for Tasmania has fallen steadily from \$111.4 million to \$61.1 million in April 1991. There was a low of \$56.4 million in December 1989.

In Tasmania, commercial finance has been used mostly for the purchase of non-residential buildings, dwellings for rental or sale, and for the purchase of motor vehicles.

The main industries to utilise commercial finance have been the industry categories (i) agriculture, forestry, fishing and hunting, (ii) manufacturing, and (iii) retail trade.

21.2.4 Lease Finance

These figures relate to lease finance commitments to private and public enterprises, and to individuals in Tasmania.

In the two year period since April 1989 lease finance for Tasmania rose to a peak of \$15.8 million in March 1990. This figure was due to an increase in purchase of motor vehicles, both new and used.

The figures have since fallen to \$5.5 million in June 1991, with a low of \$5.1 million in January 1991.

21.4 LEASE FINANCE, TASMANIA (\$m)			
Month	Type of lender		Total
	Banks	Finance companies	
1989 -			
April	1.9	7.3	9.2
May	2.5	7.9	10.4
June	2.9	8.3	11.2
July	2.7	5.8	8.5
August	5.5	4.7	10.2
September	6.2	4.9	11.2
October	4.0	4.3	8.3
November	6.6	5.5	12.0
December	8.2	4.8	13.1
1990 -			
January	7.2	5.4	12.6
February	8.7	3.1	11.8
March	12.1	3.6	15.8
April	8.2	3.2	11.4
May	4.5	3.9	8.4
June	4.5	4.8	9.4
July	4.6	4.4	9.0
August	3.4	4.6	8.1
September	3.9	4.0	7.9
October	3.8	3.8	7.6
November	4.3	4.3	8.6
December	5.8	3.5	9.4
1991 -			
January	2.5	2.6	5.1
February	2.9	2.5	5.4
March	3.5	2.6	6.1
April	3.4	2.3	5.7
May	3.0	3.2	6.1
June	3.5	2.0	5.5

(Source: ABS Catalogue No. 5644.0).

THE CREATION OF THE TRUST BANK

In the second half of 1990 it was revealed that many of the loans of the fledgling Tasmania Bank were under-performing, particularly with its loans for interstate property and media investments.

By the end of 1991 the bank's provision for bad and doubtful debts was approximately \$19 million, thus seriously affecting its continued profitability.

This was of some concern to the State Government because it had guaranteed the safety of depositors' funds. It was also concerned because the bank was a money earner for the State Government; the bank paid amounts into consolidated revenue by way of various taxes and charges.

The State Government had for some time been considering merging the Tasmania Bank with the Savings Bank of Tasmania.

A few years previously the Liberal Government, which lost office following the May 1989 state elections, had been encouraging a three-way merger involving the Savings Bank of Tasmania, the Launceston Bank for Savings and the Tasmanian Permanent Building Society. Much to the disappointment of that government, the largely southern-based Savings Bank of Tasmania finally decided not to merge and it retained its own identity.

Eventually, only the Launceston Bank for Savings and the Tasmanian Permanent Building Society merged to form the Tasmania Bank. It was only natural that in the second half of 1990 the question of merging the SBT and the Tasmania Bank was again raised.

On 15 March 1991, after several months of negotiations involving the Federal Government and a firm of banking consultants, the State Government announced plans for the merger. The new institution was to be known as the Trust Bank. There were several key elements of the merger.

First, the SBT was to pay \$55 million for the bank. This amount was split into three components:

- the first component was an amount of \$10 million which was immediately reinjected back into the SBT;

- the second component was a payout of \$20 million to restore the capital base of the Tasmania Bank; and
- the third component was a provision of \$25 million against the bad and doubtful debts of the Tasmania Bank.

Second, the Trust Bank was to be a trustee bank which would pay Commonwealth income tax. Both the SBT and the Tasmania Bank had been exempt. In return it would get Reserve Bank backing.

Third, the Commonwealth was to wipe out \$14 million from the State debt owed to it.

Fourth, the new bank would pay in excess of \$3 million per year to consolidated revenue as dividends and interest on deposits.

The Bill to formalise this merger, the *Trust Bank (Arrangements) Bill 1991*, was passed in April 1991 with support from all parties.

(Sources: *The Mercury*, 15 March 1991.

The Examiner, 15 March 1991.

The Trust Bank (Arrangements) Bill (Tas.) 1991).



Photo: Stuart Jackson

21.3 PRICES AND PRICE INDEXES

Throughout the 1980s continual price rises were greeted as the 'norm' and we all accepted the seemingly inevitable increase to our weekly shopping bill. However, the trend for the 1990s has had an encouraging start. The March quarter 1991 Consumer Price Index (CPI) recorded a decrease in Hobart for the first time in 25 years. The last time the CPI fell in Hobart was in the March quarter 1966.

Any reduction in the rate of price increases is always welcomed by consumers in the home budget battle but to experience an actual reduction has been a rare occurrence in recent times. In this changing economic environment it is essential that we maintain some measure of how prices are moving.

There are a number of methods of measuring the overall movement in prices, the most common being the use of a retail price index. A retail price index enables us to compare the changing cost over time of a constant 'basket' of goods and services, the 'basket' representing a high proportion of the normal purchases of a specified community. Retail price indexes go back as far as the year 1901.

The retail price index most commonly used is the Consumer Price Index.

21.5 RETAIL PRICE INDEX NUMBERS, SIX STATE CAPITAL CITIES COMBINED

Year	Index number
1901	47
1911	53
1921	90
1951	167
1981	926
1989 (a)	1 714
1990 (a)	1 839

(a) Weighted average of eight capital cities.

21.3.1 Consumer Price Index

This is the householder's guide to price changes. It measures quarterly changes in the

price of goods and services that account for a high proportion of expenditure by metropolitan wage and salary households. It is made up of eight main groups of expenditure items: food, clothing, housing, household equipment and operation, transportation, tobacco and alcohol, health and personal care, and recreation and education. Each of these groups is indexed separately for specific purposes or, as is the usual practice, grouped together as a summary of the changes in prices affecting the wage earner's weekly expenditure.

21.6 CONSUMER PRICE INDEX, HOBART

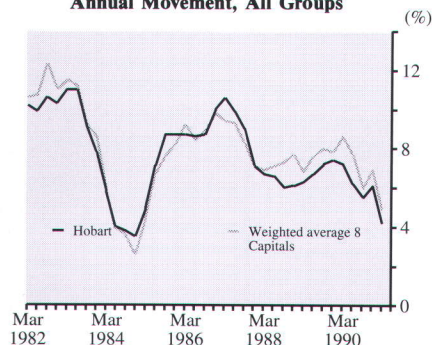
Group	1980-81	1989-90
Food	100.0	192.0
Clothing	100.0	182.8
Housing	100.0	200.3
Household equipment and operation	100.0	191.3
Transportation	100.0	209.8
Tobacco and alcohol	100.0	242.7
Health and personal care	100.0	180.0
Recreation and education	100.0 (a)	176.9
All groups	100.0	198.3

(a) March quarter 1982 = 100.00.

(Source: ABS Catalogue No. 6401.0).

All eight groups have shown steep increases during the 1980s - the increase of the weighted average for all groups was 98.3 per cent. Since

CONSUMER PRICE INDEX Annual Movement, All Groups



(Source: ABS Catalogue No. 6401.0).

1980-81 the groups showing the greatest increase in Hobart were tobacco and alcohol (142.7 per cent), transportation (109 per cent) and housing (100.3 per cent), while the health and personal care and clothing groups (80 per cent each) recorded the smallest increase.

The Consumer Price Index (CPI) does not measure the cost of living. It measures price changes in a 'basket of goods' that represent much of a wage and salary earner's expenditure. Expenditure patterns will vary from household to household just as standards of living vary considerably.

However, it is the most accurate measure of inflation as meaning an upward trend in the general internal price structure of an economy. To be strictly correct, though, no single index can be regarded as the correct measure of inflation. That is why a number of indexes have been constructed, such as indexes of building materials and materials used in the manufacturing industry.

How, then, has Hobart compared with mainland capital cities in recent years? The CPI increased in Hobart by 11.7 per cent between March 1989 and March 1991. The corresponding increase for the weighted average of all eight capital cities was 13.9 per cent. During this period the clothing, and health and personal care groups were the only groups in Hobart to record increases greater than those recorded by the eight capital cities.

The housing, transportation, and tobacco and alcohol groups recorded increases significantly lower than the eight capital cities whilst the remaining groups, food, household equipment and operation, and recreation and education were marginally lower than the eight capital cities.

21.3.2 Food Prices

Increases in food prices affect us all. The weekly supermarket visit never fails to surprise with an increase for one or two of our favourite delicacies. The food group of the CPI recorded an increase of 92 per cent between 1980-81 and 1989-90 in Hobart.

The 1980s saw increases of over 100 per cent for such staples as tea, sugar, milk and bread and over 200 per cent for corn-based breakfast cereal. Potatoes, on the other hand, increased only nine per cent, from 45 cents per kilogram in 1980 to 49 cents per kilogram in 1990.

21.7 AVERAGE RETAIL PRICES OF SELECTED FOOD ITEMS, HOBART (a) (b) (cents)

Item	Unit	1980	1990	Change (%)
Groceries, etc. -				
Bread, ordinary				
white sliced	680 g	64	131	105
Flour, self-raising	2 kg	120	215	79
Tea	250 g	77	172	123
Coffee, instant	150 g	299	454	52
Sugar	2 kg	95	238	151
Rice	1 kg	74	115	55
Breakfast cereal, corn-based	500 g	89	271	204
Peaches, canned	825 g	80	196	145
Potatoes	1 kg	45	49	9
Onions	1 kg	53	104	96
Dairy produce, etc. -				
Butter	500 g	105	198	89
Margarine, table, polyunsaturated	500 g	93	154	66
Eggs	1 doz			
	(52 g min.)	148	239	61
Bacon, rashers, pre-pack	250 g	170	321	89
Milk, fresh, cartons, delivered	2 x 600 ml	54	128	137
Meat -				
Beef -				
Rump steak	1 kg	660	970	47
Silverside, corned	1 kg	442	653	48
Lamb -				
Leg	1 kg	357	470	32
Loin chops	1 kg	371	621	67
Pork, leg	1 kg	464	690	49

(a) The table units are not necessarily those for which the original price data were obtained; in such cases, prices have been calculated for the table unit.

(b) Prices are the averages of the recorded prices for the four quarters of each calendar year.

(Source: ABS Catalogue No. 6403.0).

21.3.3 House Prices

House prices have experienced an unprecedented upward movement in the 1980s with most parts of Australia being affected to some degree.

Hobart has been no exception with price increases of 26.2 per cent for established houses and 27.5 per cent for construction of project homes in the four year period from September 1986 to September 1990.

The increase in Hobart is, however, dwarfed in comparison to that recorded for the same four year period in Sydney. Sydney recorded a massive 86.1 per cent price increase for established houses and a price increase of 55.9 per cent for the construction of project homes.

Other cities with large increases were Brisbane (71.9 per cent for established houses, 57.8 per cent for project homes) and Perth (67.8 per cent for established houses, 33.5 per cent for project homes). Adelaide, Melbourne and Canberra recorded increases of a similar level to those in Hobart.

This increase in the cost of housing along with the higher mortgage interest rate levels of recent years has significantly increased the burden of house purchase or construction.

21.8 HOBART HOUSE PRICES

<i>Quarter/Year</i>	<i>Established house prices (index numbers)</i>	<i>Annual increase (%)</i>	<i>Project home prices (index numbers)</i>	<i>Annual increase (%)</i>
Sept. 1986	100.0	..	100.0	..
1987	102.5	2.5	104.8	4.8
1988	111.6	8.9	111.2	6.1
1989	121.8	9.1	120.4	8.3
1990	126.2	3.6	127.5	5.9

(Source: ABS Catalogue No. 6416.0).

21.3.4 Price of Building Materials

The price of materials used for the construction of houses in Hobart has increased in a similar manner to prices of established houses and project home construction. In the period March 1986 to March 1991 Hobart recorded a 33.4 per cent increase in house building materials, which was lower than the 41.3 per cent increase recorded by the weighted average of the six State capital cities. Cities recording the highest increase in this period were Perth and Sydney with increases of 48.1 per cent and 45.0 per cent respectively.

A similar trend was evident in surveys of prices of materials used for construction of buildings other than houses. Such buildings include office blocks, car parks, flats and units, and supermarkets. Hobart recorded an increase of 32.7 per cent for the March 1986 to March 1991 period, compared with 43.5 per cent for the six State capital cities. Cities recording the highest increase were, again, Perth and Sydney with 49.0 per cent and 43.9 per cent respectively.

Information on the prices of a number of common construction materials are collected in the survey known as the 'Other than house building materials' survey. These prices, which include those of ready-mixed concrete, structural steel and aluminium windows, move in relation to such things as the price of raw materials, labour, and market forces. As these invariably change over time, it is useful for those involved in the construction industry to know of this movement, especially with construction projects which require a long period of months or years to complete. To cover these variations, 'rise and fall' clauses are inserted in building contracts. Often the clauses are based on information from these surveys.

In Hobart, in the period March 1990 to March 1991, the price of ready mixed concrete increased by 1.0 per cent, structural steel by 4.3 per cent and aluminium windows by 1.0 per cent.

21.9 SELECTED CONSTRUCTION MATERIALS PRICES, HOBART

<i>Year ended</i>	<i>Per cent variation</i>		
	<i>Ready mixed concrete</i>	<i>Structural steel</i>	<i>Aluminium windows</i>
March 1986	8.8	23.3	6.8
1987	3.1	3.7	8.9
1988	-0.1	7.6	12.4
1989	10.9	12.7	5.6
1990	6.2	5.1	0.5
1991	1.0	4.3	1.0

(Source: ABS Catalogue No. 6407.0).

21.4 HOUSEHOLD EXPENDITURE

Recent information from an Australia-wide survey of household expenditure for 1988-89 shows Tasmanian households spent an average of \$424.92 on commodities and services. For all Australian States and Territories the average was \$502.71.

Food, transport and housing were the major expenditure areas. Together for Tasmania, they totalled 49.0 per cent of all expenditure, which was slightly more than the equivalent percentage expenditure for Australia, 48.5 per cent.

The biggest single weekly expenditure difference between Australian and Tasmanian households was on current housing costs, \$53.79 for Tasmanian households and \$71.80 for Australian households. This was due to a number of factors, principally the lower cost of housing,

and the larger percentage of households, relative to other States, of people who own their own home.

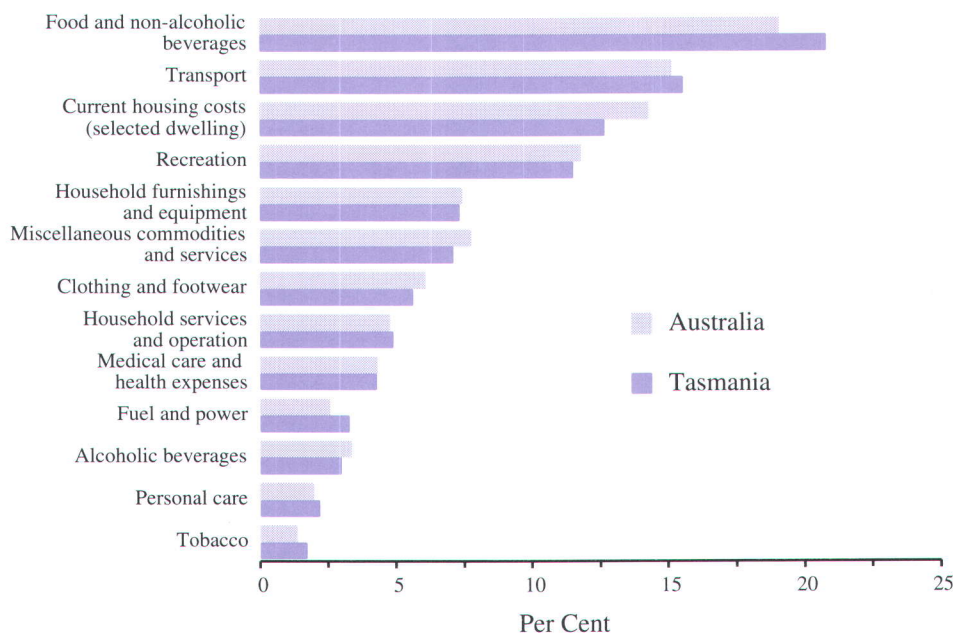
The next biggest expenditure difference was in the area of recreation. Tasmanians spent \$48.95 on average, whereas Australian households spent \$59.37.

Only in two areas, fuel and power, and tobacco products did Tasmanians, on average, spend more than the average for Australia.

Information from an earlier survey in 1984 together with the 1988-89 survey information enables a number of comparisons to be made. The percentage difference in the total of average expenditures was 36.2 per cent, from \$311.90 in 1984 to \$424.92 in 1988-89.

The biggest percentage points increases were in medical care and health expenses (60.2 per cent), and personal care (62.6 per cent). The smallest percentage change was 3.3 per cent for clothing and footwear.

**Average Weekly Household Expenditure
by Major Expenditure Areas, 1988-89
(Per Cent of Total Expenditure)**



(Source: ABS Catalogue No. 6530.0).

21.10 HOUSEHOLD EXPENDITURE, TASMANIA

Commodity or service	1984 (\$)	1988-89 (\$)	Change (%)
Current housing costs (selected dwellings)	39.04	53.79	37.8
Fuel and power	10.91	13.95	27.9
Food and non-alcoholic beverages	62.80	88.44	40.8
Alcoholic beverages	9.45	12.67	34.1
Tobacco	5.56	7.28	30.9
Clothing and footwear	23.18	23.94	3.3
Household furnishings and equipment	23.93	31.20	30.4
Household services and operation	13.16	20.83	58.3
Medical care and health expenses	11.40	18.26	60.2
Transport	47.59	66.10	38.9
Recreation	41.01	48.95	19.4
Personal care	5.70	9.27	62.6
Miscellaneous commodities and services	18.17	30.24	66.4
Total	311.90	424.92	36.2

(Source: ABS Catalogue No. 6530.0).

21.5 RETAIL TRADE

During 1989-90 Tasmania's retailers had a turnover of \$2076 million, an increase of 8.9 per cent on 1988-89 and 39.4 per cent on 1987-88. This illustrated the flattening of the economy that occurred due to the protracted air pilots' dispute and the general economic slowdown.

Cafes and restaurants had the largest change in turnover with an increase of 38.2 per cent over that for 1988-89, followed by newsagents with 32.9 per cent. Domestic hardware stores and jewellers, furniture stores and other stores (which include florists, second-hand goods stores, retail nurseries and pet shops) had a fall in turnover.

The wholesale and retail trade industries together contributed 12.8 per cent to the Tasmanian Gross Domestic Product at factor cost in 1988-89. This proportion has been reasonably constant during the past 10 years, varying from a high of 14.0 per cent in 1985-86 to a low of 12.4 per cent in 1982-83 and 1983-84. In 1988-89 the Tasmanian share of the national Gross

New Supermarket Concept for Tasmania

A new \$15 million supermarket and office complex in Sandy Bay incorporates features designed to make shopping more pleasurable and to help make the supermarket a focus of the community as the corner store was in the first 50 years of this century. Features include a creche, a mothering room, facilities for the disabled and a culinary arts facility. It was completed in October 1991.

(Source: Hobart Chamber of Commerce, Annual Report, 1990).

Domestic Product for the wholesale and retail industries was 1.9 per cent. Tasmania had 2.7 per cent of Australia's population at this time.

21.11 TURNOVER OF RETAIL ESTABLISHMENTS, TASMANIA (a)

Type of store	1989-90 (\$m)	1990-91 (\$m)	% change
Grocers, confectioners and tobacconists	680.0	723.8	6.4
Butchers	51.8	52.3	1.0
Other food stores	111.3	143.6	29.0
Hotels, liquor stores and licensed clubs	311.4	333.6	7.1
Cafes and restaurants	68.2	75.9	11.3
Clothing and fabric stores	165.3	167.9	1.6
Department and general stores	227.3	230.0	1.2
Footwear stores	33.3	36.0	8.1
Domestic hardware stores and jewellers	36.4	40.3	10.7
Electrical goods stores	116.8	127.3	9.0
Furniture stores	43.5	40.2	-7.6
Floor covering stores	19.9	20.4	2.5
Pharmacies	78.5	86.7	10.4
Newsagencies	89.1	99.5	11.7
Other stores	104.0	106.6	2.5
Total	2 136.7	2 283.7	6.9

(a) Excludes motor vehicles and spare parts dealers, service stations etc.

(Source: ABS Catalogue No. 8501.0).

The last retail census of Australia was held on 30 June 1986 (the next is due in 1992). This showed that there were 4592 retail establishments in Tasmania, or one retail establishment for every 95 Tasmanians. These establishments employed 23 213 persons. The average number of employees per establishment was five persons.

One-third of all retail establishments in Tasmania were food stores. Food stores employed 37 per cent of persons employed in the industry and contributed 30.2 per cent to industry turnover.

21.6 PRIVATE NEW CAPITAL EXPENDITURE

Capital expenditure is a key component of the National Accounts, while at the same time it is a useful indicator anticipating economic trends, especially if the capital expenditure can be matched against that which is necessary merely to maintain existing levels of production and employment.

Private new capital expenditure refers to non-government money spent on the acquisition of new tangible assets. It includes money spent on all new buildings and structures, and on new plant, machinery, tools, vehicles, office equipment and furniture.

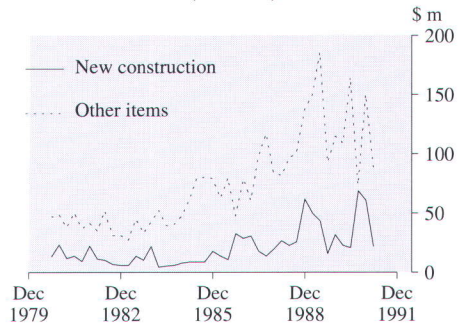
Private new capital expenditure does not, however, include houses built by speculative builders (which are part of their sales stock) or money spent on renovations.

Historically, private new capital expenditure in Tasmania has been at a fairly low level al-

though there is a long term upward trend. It peaked in 1989 before slumping in the face of a protracted air pilots' dispute and high interest rates, both of which combined to produce business scaledowns and bankruptcies.

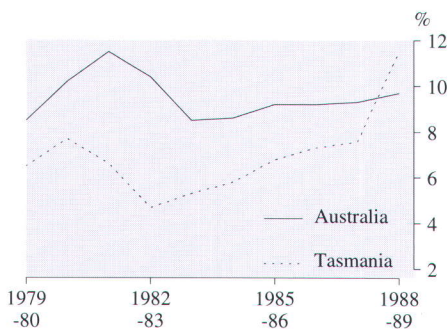
Unlike the rest of Australia, these figures have recently recovered their upward momentum, although they have not yet quite returned to recent high levels. Seeing that capital expenditure is often seen as a measure of business confidence, these figures are of great interest in this State.

PRIVATE NEW CAPITAL EXPENDITURE
TASMANIA
(\$ million)



Source: State Estimates of Private New Capital Expenditure, ABS Catalogue No. 5646.0

PRIVATE NEW CAPITAL EXPENDITURE
AS A PERCENTAGE OF GDP
Australia and Tasmania



Source: State Estimates of Private New Capital Expenditure, ABS Catalogue No. 5646.0

Tasmania is often seen to suffer from 'absentee landlords' in that the owners of many of our major companies are located in other States and can often be looked at as overlooking their Tasmanian operations which are, after all, only a small part of their income.

Together with Tasmanian industry's reliance on traditional modes and techniques of production, this has led to a low proportion of the State's Gross Domestic Product being re-invested in the future of the State.

Happily for Tasmania this seems to be breaking down. Indeed, for the first time since figures are available, Tasmania is doing better than the rest of the country. This is a positive sign for the future.

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Consumer Price Index (6401.0), quarterly.

Average Retail Prices of Selected Items, Eight Capital Cities (6403.0), quarterly.

Price Index of Materials used in Building Other than House Building, Eight Capital Cities (6407.0), monthly.

Price Index of Materials used in House Building, Six State Capital Cities and Canberra (6408.0), monthly.

House Price Indexes: Eight Capital Cities (6416.0), quarterly.

Household Expenditure Survey 1988-89, Australia, Summary of Results (6530.0), irregular.

Retail Trade, Australia (8501.0), monthly.

TASMANIAN STATISTICAL DIVISIONS

The State, for statistical purposes, is analysed by division which is basically a group of whole municipalities. The traditional Tasmanian statistical divisions, in use for over 50 years, were exposed to searching scrutiny in 1971 and the decision was taken to introduce a new structure, to be applied to statistics in respect of periods commencing on or after 1 July 1972.

History of Statistical Divisions

The groupings of administrative areas into divisions for statistical purposes can be found in annual volumes of the *Statistics of Tasmania* dating back to the nineteenth century. The administrative areas included: police districts, registration districts, electoral districts, and municipalities. The boundaries of these areas were subject to periodic changes. The *Local Government Act* 1906 provided a basis for the whole State coming under uniformly constituted local government and gradually the divisional grouping of administrative areas was confined, in official statistics, to municipalities. As a result of this Act, fixed local government area (municipality) boundaries were delineated in 1907 by a commission specially set up for the purpose. These boundaries remained generally unchanged from 1907, although there have been numerous relatively minor boundary changes, to 1919 when the old municipalities of 'Hobart', 'Queenborough' and 'New Town' were combined to form the new municipality of 'Hobart'.

In 1919, groupings of local government areas used were very similar to those still used in 1971; in some series Hobart, Launceston and Glenorchy were separately specified as components of an 'Urban Division' distinct from the region in which each was located.

The basis of these 1919 groupings can only be inferred since no specific criteria were specified in the records. The Western Division clearly combined the 'west coast' mining municipalities into one entity; the Southern Division seemed to be based on orcharding, small fruit and hop areas; while the South Eastern Division was allied more with pastoral and grazing areas. In short, the main determinant may well have been similarity of rural activity (with the Western Division a special case because of its mining activity).

After the 1966 population census, a new division was formed with the title Hobart Division, comparable with similar capital city divisions in other States; its boundaries were drawn wide enough to encompass the expected expansions of the inner urban area for a period of 20 to 30 years. Apart from this, the broad divisional structure in 1971 was very much the same as it had been in 1919.

In 1972 a new statistical division structure, using the three principal urban centres of influence as a basis, was designed. The three urban centres and their areas of influence were: Hobart - South and South-East; Launceston - North and North-East; and Burnie-Devonport - North-West and West. The following divisional structure was then adopted; with Hobart as focus - Hobart and Southern divisions; with Launceston as focus - Northern Division split into Tamar and North Eastern sub-divisions; and with Burnie-Devonport as focus - Mersey-Lyell Division split into North Western and Western sub-divisions.

In July 1985 the old municipalities of 'St Leonards', 'Lilydale', and 'Launceston' amalgamated to form the new 'City of Launceston'. In July 1986 the west coast municipalities of 'Gormanston' and 'Queenstown' amalgamated to form the new municipality of 'Lyell'.

With the introduction of the Australian Standard Geographical Classification (ASGC), there were changes to statistical sub-divisions. The Tamar and North Western statistical sub-divisions ceased to exist. They are now represented by the Greater Launceston and Central North statistical sub-divisions, and Burnie-Devonport and North Western Rural statistical sub-divisions respectively.

Greater Hobart Division

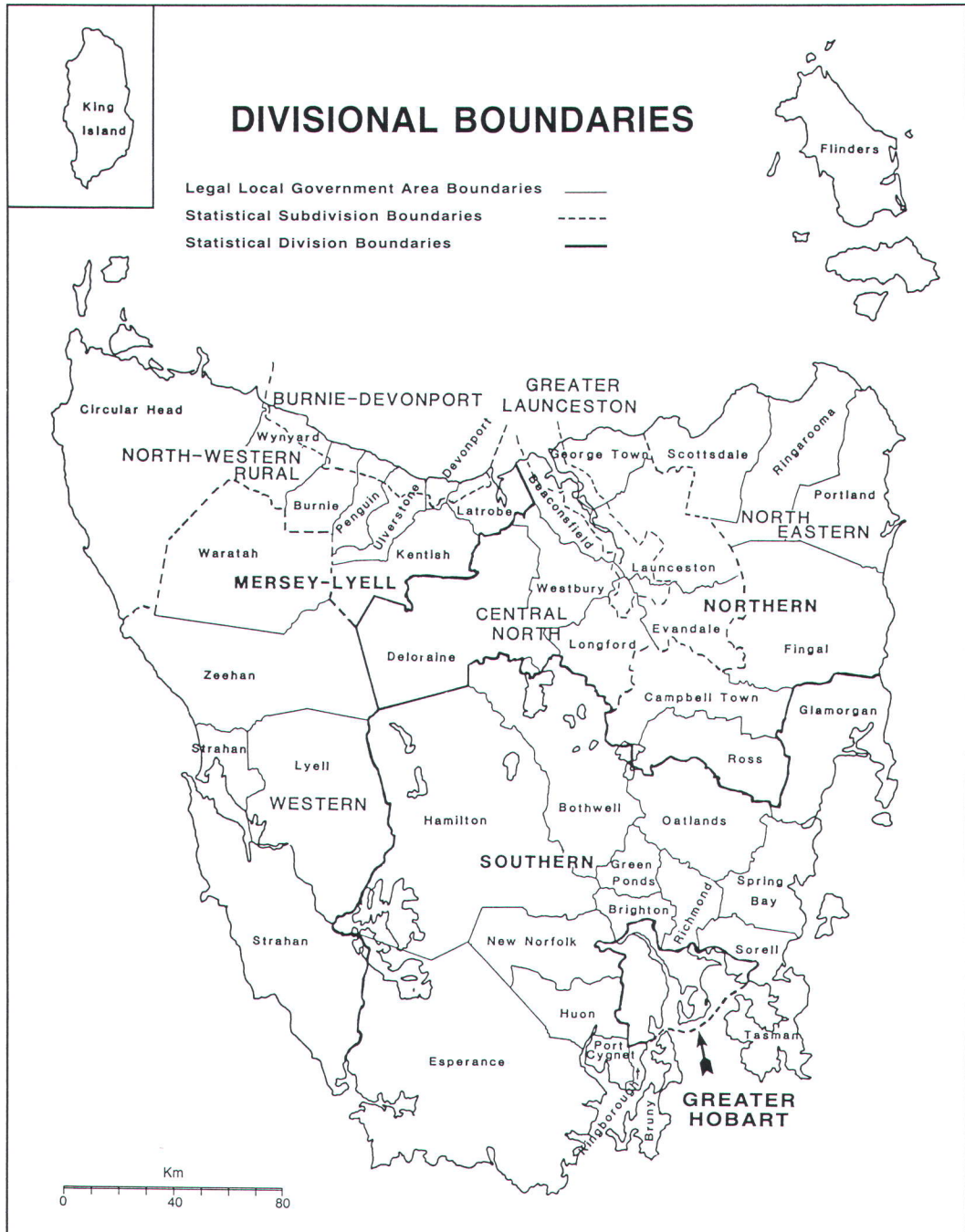
This Division comprises Hobart, Glenorchy and Clarence cities, and parts of four other municipalities: Brighton, Kingborough, New Norfolk, and Sorell. The Division is Tasmania's principal industrial region and the administrative focal point. The Greater Hobart Division boundaries were drawn wide enough to contain the expected outward growth of the inner urban area for a period of 20 to 30 years.

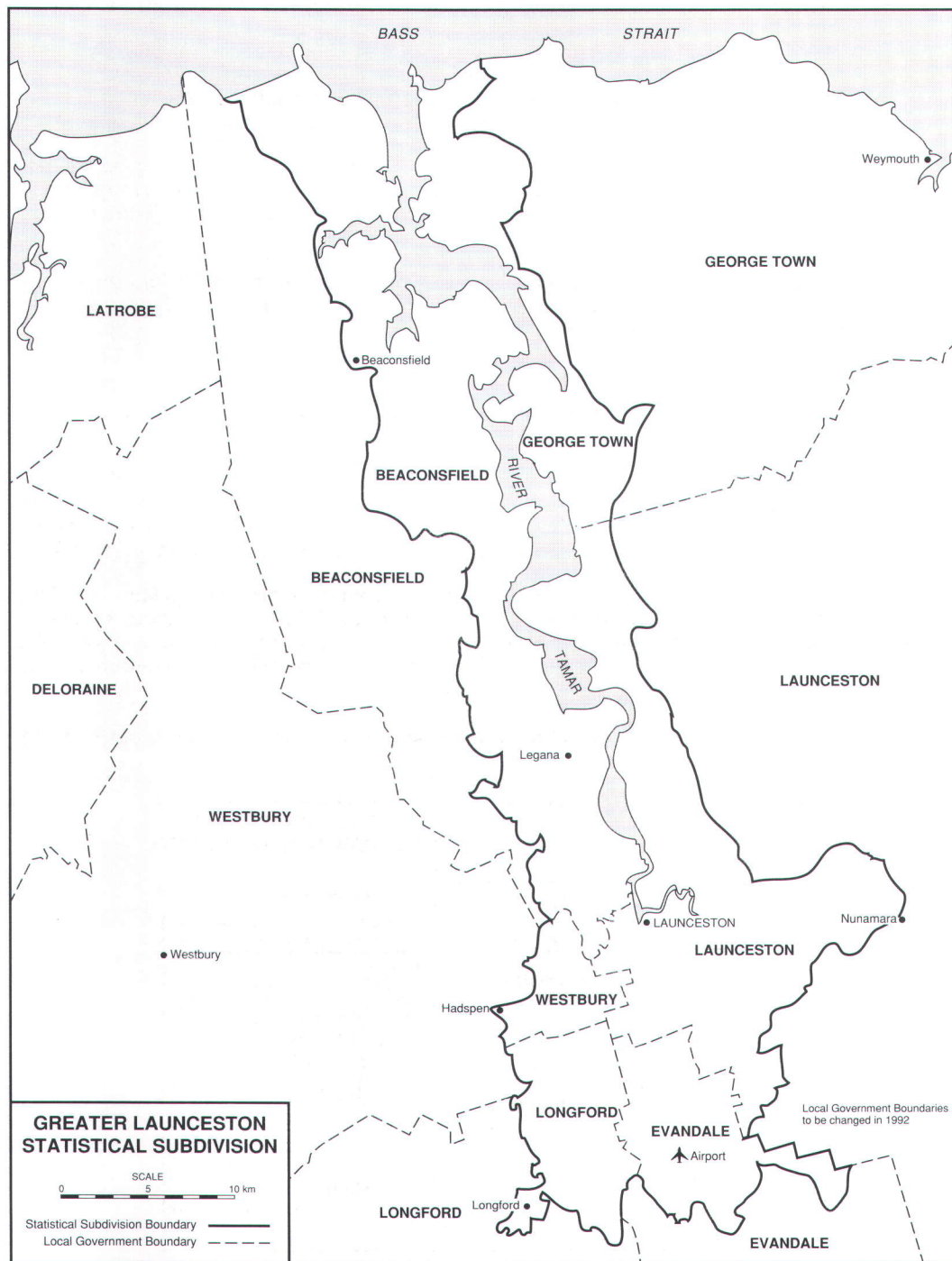
One important component of the Greater Hobart Division is Urban Hobart, defined as the densely settled contiguous parts of the cities of Hobart, Glenorchy and Clarence, and the municipality of Kingborough. The boundaries of Urban Hobart and of the Greater Hobart Division do not conform with borders defining local government areas.



Southern Division

Comprises the southern local government authority areas which have Hobart as their urban focus. Predominant activities include orcharding, sheep and cattle grazing, forestry and timber processing.





Northern Division

The Northern Division is the region with Launceston as its urban focus.

- (i) *Greater Launceston Statistical Sub-division:* A new boundary delineating the Launceston Statistical District was drawn for the purpose of presenting results of the 1976 Population Census. The boundary was drawn to contain the area of expected urban growth over the next two decades and includes the City of Launceston and parts of five other municipalities.

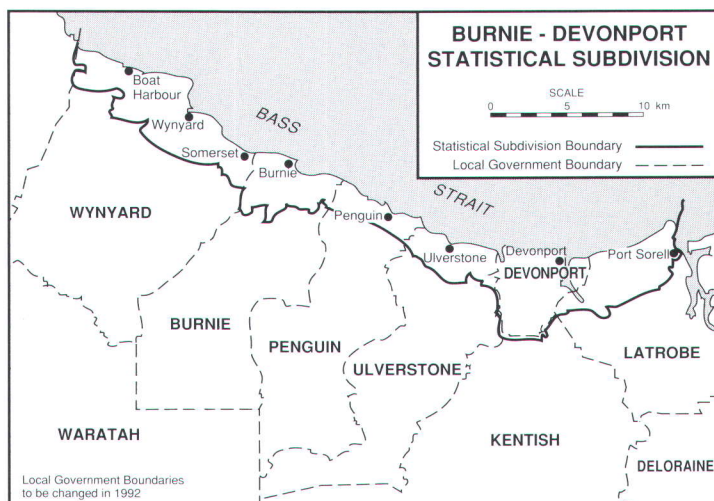
Urban Launceston is defined for statistical purposes as the City of Launceston plus the contiguous urban parts of the Evandale, Westbury and Beaconsfield municipalities.

- (ii) *Central North Statistical Sub-division:* This region comprises the Tamar Valley, parts of the City of Launceston and inland to Longford and Deloraine. It includes several major manufacturing industries, port facilities of the northern region and agricultural, pastoral, dairying and forestry industries.
- (iii) *North-Eastern Statistical Sub-division:* This comprises the outer seven municipalities of the Northern Division. Principal activities include agriculture, dairying, sheep and cattle grazing, forestry and some mining.

Mersey-Lyell Division

This division encompasses the north-west and western portions of the State. The region has a twin urban focus of Burnie-Devonport.

- (i) *Burnie-Devonport Statistical Sub-division:* As with the Launceston Statistical District the Burnie-Devonport Statistical District was drawn to contain the area of expected urban growth over the next two decades. It includes the whole of the City of Devonport and parts of the City of Burnie and the municipalities of Wynyard, Penguin, Ulverstone and Latrobe.
- (ii) *North-Western Rural Statistical Sub-division:* This comprises the municipalities stretching along Bass Strait from Latrobe to Circular Head plus part of the City of Burnie as well as the municipalities of Kentish and King Island. The sub-division includes several major manufacturing industries and is a principal agricultural, pastoral, dairying and forestry area for the State.
- (iii) *Western Statistical Sub-division:* Contains Tasmania's western municipalities where mining activities predominate.



STATISTICAL SUMMARY

In the following pages, an historical summary of the more important statistics available that relate to Tasmania is shown. Only brief footnotes have been included and readers should refer to publications listed in the bibliography at the end of each relevant chapter. Naturally, the range of statistics for early years is very limited. Also, it should be borne in mind that perfect comparability over long periods of time is difficult to attain due to changes in definitions,

scope of statistical collections, etc. While major breaks in series are shown, minor changes to series are not indicated and the statistics should be interpreted with this in mind.

Generally, the first year shown on each page is the earliest for which any series on that page is available. Due to space constraints, earlier details for some series are given only for either every five or ten years.

(Chapter 6) Summary of Population at Census Dates, Tasmania (a) (b)

Particulars	Census date									
	April 1921	June 1933	June 1947	June 1954	June 1961	June 1966	June 1971	June 1976	June 1981	June 1986
Population -										
Males	no. 107 743	115 097	129 244	157 129	177 628	187 390	196 442	201 512	208 641	216 480
Females	no. 106 037	112 502	127 834	151 623	172 712	184 045	193 971	201 356	210 316	219 873
Persons	no. 213 780	227 599	257 078	308 752	350 340	371 435	390 413	402 868	418 957	436 353
Masculinity (males per 100 females)	no. 102	102	101	104	103	102	101	100	99	98
Average annual increase since previous Census -										
Males	% 1.0	0.6	0.8	2.8	1.8	1.1	1.0	0.5	0.7	0.8
Females	% 1.3	0.5	0.9	2.5	1.9	1.3	1.0	0.8	0.9	0.9
Persons	% 1.1	0.5	0.9	2.7	1.8	1.2	1.0	0.6	0.8	0.8
Age distribution of population -										
Under 16 years	no. 77 654	73 030	77 483	102 171	123 331	127 379	129 307	124 267	116 942	114 843
.	% 36.3	32.1	30.1	33.1	35.2	34.3	33.1	30.8	28.0	26.3
16 years and under 65 years	no. 126 055	138 515	159 925	183 230	200 001	214 981	230 069	243 885	261 151	275 058
.	% 59.0	60.9	62.2	59.3	57.1	57.9	58.9	60.5	62.3	63.0
65 years and over	no. 10 071	16 054	19 670	23 351	27 008	29 075	31 037	34 719	42 540	46 452
.	% 4.7	7.0	7.7	7.6	7.7	7.8	7.9	8.6	9.9	10.6
Religions of the population -										
Church of England	no. 112 222	105 228	123 158	147 407	159 101	166 023	169 089	158 748	151 207	154 748
Methodist	no. 27 171	26 470	33 358	38 236	42 236	43 084	42 173	37 107	19 906	-
Catholic (c)	no. 35 465	33 189	39 844	53 042	63 993	71 089	77 250	75 092	78 143	80 479
Presbyterian	no. 14 796	13 194	12 644	15 607	16 757	17 498	17 281	14 899	11 575	12 084
Baptist	no. 5 332	4 666	5 374	6 293	7 227	7 759	8 039	7 940	7 965	8 092
Congregational	no. 4 543	3 963	4 007	4 425	4 193	4 530	4 134	3 266	1 790	1 241
Churches of Christ	no. 1 935	1 892	2 039	2 267	2 507	2 701	2 500	2 188	2 110	2 046
Protestant (undefined)	no. 2 271	1 979	1 661	2 157	1 975	1 924	4 243	3 455	5 217	3 034
Salvation Army	no. 1 357	1 142	1 612	1 815	2 316	2 661	3 176	2 880	3 202	3 437
Uniting Church (d)	no. -	-	-	-	-	-	-	-	17 668	36 724
Other Christian	no. 3 597	3 530	4 518	8 238	11 229	13 058	16 510	18 667	18 631	22 907
Total Christian	no. 208 689	195 253	228 215	279 487	311 534	330 327	344 395	324 242	317 414	324 792
Non-Christian	no. 245	87	173	256	268	485	561	779	1 263	1 967
Indefinite	no. 520	373	797	796	1 766	2 275	993	2 223	11 162	2 292
No religion	no. 399	159	506	516	775	2 020	20 221	27 624	36 222	47 852
No reply	no. 3 927	31 727	27 387	27 697	35 997	36 328	24 243	47 998	52 896	59 363
Conjugal condition of the population -										
Never married -										
Under 15 years of age	no. 73 444	68 590	73 371	97 452	117 299	120 164	121 323	115 665	109 604	106 538
15 years of age and over	no. 54 297	61 009	53 912	54 890	58 039	64 365	65 213	70 229	80 067	87 728
Total never married	no. 127 741	129 599	127 283	152 342	175 338	184 529	186 536	185 894	189 671	194 266
Married	no. 76 482	86 014	114 625	139 801	157 110	167 421	181 855	185 056	189 442	196 070
Widowed	no. 8 874	10 954	12 933	14 030	15 563	16 959	18 621	19 340	21 362	22 241
Divorced	no. 118	416	1 319	2 002	2 329	2 526	3 401	5 868	10 855	15 214
Not stated	no. 565	616	918	577	(e)	(e)	(e)	(e)	(e)	(e)
Birthplaces of the population -										
Australia	no. 196 268	215 213	247 379	282 491	317 478	335 582	350 150	361 866	371 624	386 885
New Zealand	no. 1 356	1 201	1 030	1 112	1 128	1 237	1 550	1 801	2 421	2 763
United Kingdom and Republic of Ireland	no. 12 734	9 588	7 123	14 113	16 741	19 101	22 513	22 913	23 289	23 226
Netherlands	no. 9	11	13	2 340	3 556	3 367	3 183	2 916	3 008	2 973
Germany	no. 389	238	171	1 794	2 223	2 016	2 009	1 886	1 936	1 982
Italy	no. 37	92	64	974	1 536	1 448	1 485	1 423	1 343	1 259
Other European	no. 512	334	325	4 535	5 789	6 033	6 184	5 970	5 530	5 491
Other birthplace	no. 2 475	922	973	1 393	1 889	2 651	3 339	4 095	9 806	11 774

(a) Full-blood Aboriginals excluded from census data prior to 1966.

(b) As recorded. Not adjusted for under-enumeration.

(c) Includes Catholic and Roman Catholic.

(d) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches.

(e) Conjugal condition was allocated where this information was not stated.

(Chapter 6)

Population, Tasmania

Year	Estimated population (a)							Annual rate of increase of population (c)
	Total at 30 June	Mean: year ended 30 June	Mean: year ended 31 Dec	Totals at 31 December				
				Persons	Males	Females	Masculinity (b)	
	no.	no.	no.	no.	no.	no.	per cent	
1820	n.a.	n.a.	n.a.	5 400	n.a.	n.a.	n.a.	8.00
1825	n.a.	n.a.	n.a.	14 192	10 979	3 213	341.7	21.26
1830	n.a.	n.a.	n.a.	24 279	18 108	6 171	293.4	11.35
1835	n.a.	n.a.	n.a.	40 172	28 749	11 423	251.7	10.59
1840	n.a.	n.a.	n.a.	45 999	32 040	13 959	229.5	2.75
1845	n.a.	n.a.	n.a.	64 291	43 921	20 370	215.6	6.91
1850	n.a.	n.a.	n.a.	68 870	44 229	24 641	179.5	1.37
1855	n.a.	n.a.	n.a.	69 962	38 680	31 282	123.6	0.32
1860	n.a.	n.a.	88 752	89 821	49 653	40 168	123.6	5.12
1865	n.a.	n.a.	93 111	93 967	50 549	43 418	116.4	0.90
1870 (d)	n.a.	n.a.	100 038	100 886	53 517	47 369	113.0	1.44
1875	n.a.	n.a.	104 000	103 739	54 678	49 061	111.4	0.55
1880	n.a.	n.a.	113 648	114 790	60 568	54 222	111.7	2.02
1885	n.a.	n.a.	127 763	128 860	67 712	61 148	110.7	2.33
1890	n.a.	n.a.	143 224	144 787	76 453	68 334	111.9	2.38
1895	n.a.	n.a.	153 701	154 895	80 485	74 410	108.2	1.35
1900	n.a.	n.a.	172 631	172 900	89 763	83 137	108.0	2.21
1905	183 351	183 834	184 478	186 385	95 947	90 438	106.1	1.52
1910	189 807	190 792	191 005	193 803	98 866	94 937	104.1	0.79
1915	195 370	196 320	196 238	197 536	98 653	98 883	99.8	0.38
1920	209 425	208 599	210 350	212 752	107 259	105 493	101.7	1.37
1925	213 991	215 997	215 552	219 364	110 172	109 192	100.9	0.70
1930	219 983	219 269	220 933	225 297	113 505	111 792	101.5	0.48
1935	228 988	229 339	229 867	233 423	118 124	115 299	102.5	0.63
1940	240 191	240 023	241 134	244 002	123 650	120 352	102.7	0.31
1945	248 633	246 971	248 596	250 280	125 854	124 426	101.1	1.37
1950	275 902	274 493	278 785	290 333	147 103	143 230	102.7	3.20
1951	286 193	283 526	288 294	301 787	153 721	148 066	103.8	3.95
1952	296 299	293 340	298 361	309 558	157 702	151 856	103.8	2.57
1953	304 080	302 529	306 318	316 465	161 305	155 160	104.0	2.23
1954 (d)	308 752	309 416	311 055	319 218	162 393	156 825	103.6	0.87
1955	314 092	312 694	315 565	324 919	165 356	159 563	103.6	1.79
1956	318 470	318 309	321 039	331 340	168 695	162 645	103.7	1.98
1957	326 130	324 666	328 435	338 807	172 186	166 621	103.8	2.25
1958	333 066	332 046	335 382	343 898	174 465	169 433	103.0	1.50
1959	339 376	338 628	341 423	351 349	178 109	173 240	102.8	2.17
1960	343 910	344 111	346 913	355 969	180 511	175 458	102.9	1.31
1961 (d)	350 340	350 077	353 623	353 258	178 864	174 394	102.6	0.76
1962	355 668	353 175	355 682	358 087	181 085	177 002	102.3	1.37
1963	360 727	358 180	360 590	362 799	183 330	179 469	102.2	1.32
1964	364 311	362 758	364 554	366 508	185 051	181 457	102.0	1.02
1965	367 905	366 366	367 970	369 608	186 483	183 125	101.8	0.85
1966 (d)	371 436	369 600	371 483	373 309	188 180	185 129	101.6	1.00
1967	375 244	373 321	375 397	377 841	190 369	187 472	101.5	1.21
1968	379 649	377 582	379 916	383 055	192 871	190 184	101.4	1.38
1969	384 893	382 710	385 079	386 998	194 788	192 210	101.3	1.03
1970	387 720	386 665	388 180	390 253	196 363	193 890	101.3	0.84
1971 (d)	398 100	(e) n.a.	(e) n.a.	399 500	200 600	198 900	100.4	(e) n.a.
1972	400 300	399 400	400 500	401 900	201 600	200 300	100.6	0.60
1973	403 100	401 800	403 200	404 600	202 800	201 800	100.5	0.67
1974	406 200	404 600	406 300	408 800	204 600	204 200	100.2	1.04
1975	410 100	408 300	410 000	411 500	205 900	205 600	100.1	0.66
1976 (d)	412 300	411 300	412 400	413 700	206 900	206 800	100.0	0.53
1977	415 000	413 700	415 100	416 500	208 300	208 300	100.0	0.68
1978	417 600	416 500	417 800	419 100	209 600	209 600	100.0	0.62
1979	420 800	419 200	420 700	422 200	210 700	211 600	99.6	0.74
1980	423 600	422 200	423 600	425 200	211 600	213 600	99.1	0.71
1981 (d)	427 200	425 300	427 100	428 300	212 900	215 300	98.9	0.73
1982	429 800	428 600	429 800	431 000	214 200	216 800	98.8	0.63
1983	432 800	431 000	432 800	435 100	216 100	219 000	98.7	0.95
1984	437 800	435 100	437 600	440 100	218 400	221 700	98.5	1.15
1985	442 800	440 100	442 500	444 600	220 700	223 900	98.6	1.02
1986 (d)	446 500	444 600	446 400	447 700	222 200	225 400	98.6	0.70
1987	447 900	447 400	447 700	447 800	222 200	225 600	98.5	0.02
1988	448 500	448 000	448 600	449 300	222 900	226 300	98.5	0.12
1989	451 100	449 600	451 300	453 600	225 200	228 400	98.6	0.60
1990 p	456 700	453 700	456 300	458 600	227 800	230 800	98.7	1.23

(a) Prior to 1966 excludes full-blood Aborigines. (b) Number of males per 100 females. (c) The rate of increase during the previous 12 months or, in the years prior to 1936, the average (compound) rate of increase during the previous five years. (d) Census year. (e) Not available due to change in series.

(Chapter 6)

Births, Deaths, Marriages and Divorces, Tasmania

Year	Number				Rate per 1 000 of mean population			Deaths under one year of age	
	Births	Deaths	Marriages	Divorces	Births	Deaths	Marriages	Number	Rate per 1 000 live births
1830	460	270	163	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1840	404	501	457	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1845	1 506	697	658	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1850	2 025	1 070	923	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1855	2 948	1 692	1 257	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1860	3 238	1 749	689	n.a.	36.48	19.71	7.76	n.a.	n.a.
1865	3 069	1 263	591	n.a.	32.96	13.56	6.35	n.a.	n.a.
1870	3 054	1 404	670	n.a.	30.53	14.03	6.70	298	97.6
1875	3 105	2 079	689	n.a.	29.86	19.99	6.83	407	131.1
1880	3 739	1 832	840	n.a.	32.90	16.12	7.39	420	112.3
1885	4 637	2 036	1 054	n.a.	36.29	15.94	8.25	522	112.6
1890	4 813	2 118	954	n.a.	33.60	14.79	6.66	508	105.6
1895	4 790	1 811	846	5	31.16	11.78	5.50	391	81.6
1900	4 864	1 903	1 332	4	28.18	11.02	7.72	389	80.0
1905	5 257	1 844	1 365	2	28.50	10.00	7.40	424	80.7
1910	5 586	2 120	1 493	6	29.25	11.10	7.82	568	101.7
1915	5 845	2 015	1 600	7	29.79	10.27	8.15	423	72.4
1920	5 740	2 036	1 999	18	27.29	9.68	9.50	376	65.5
1925	5 218	1 996	1 504	37	24.21	9.26	6.98	288	55.2
1930	4 786	1 948	1 450	42	21.66	8.82	6.56	242	50.6
1935	4 456	2 353	1 875	87	19.39	10.24	8.16	231	51.8
1936	4 581	2 387	2 073	62	19.79	10.31	8.96	227	49.6
1937	4 841	2 225	2 042	30	20.65	9.49	8.71	202	41.7
1938	4 907	2 288	2 082	109	20.76	9.68	8.81	195	39.7
1939	5 004	2 426	2 264	80	20.95	10.16	9.48	203	40.6
1940	4 994	2 387	2 476	83	20.71	9.90	10.27	176	35.2
1941	5 206	2 575	2 150	84	21.66	10.71	8.94	255	49.0
1942	5 305	2 430	2 431	83	22.00	10.08	10.08	255	42.4
1943	5 597	2 527	2 102	89	23.05	10.41	8.66	227	40.6
1944	5 200	2 494	1 935	115	21.17	10.15	7.88	199	38.3
1945	5 785	2 413	1 868	172	23.27	9.71	7.51	159	27.5
1946	6 847	2 549	2 650	219	27.15	10.11	10.51	207	30.2
1947	7 140	2 363	2 584	210	27.71	9.17	10.03	195	27.3
1948	6 979	2 528	2 428	185	26.49	9.60	9.22	193	27.7
1949	7 110	2 389	2 422	266	26.30	8.84	8.96	170	23.9
1950	7 242	2 466	2 560	152	25.96	8.85	9.18	172	23.8
1951	7 357	2 567	2 607	194	25.52	8.93	9.04	196	26.6
1952	7 916	2 579	2 553	217	26.53	8.64	8.56	172	21.7
1953	7 736	2 551	2 424	210	25.25	8.33	7.91	177	22.9
1954	7 770	2 696	2 512	238	24.98	8.67	8.08	186	23.9
1955	8 089	2 489	2 600	233	25.63	7.89	8.24	189	23.4
1956	8 104	2 513	2 601	197	25.24	7.83	8.10	170	21.0
1957	8 435	2 670	2 507	180	25.68	8.13	7.63	170	20.2
1958	8 568	2 708	2 475	176	25.55	8.07	7.38	167	19.5
1959	8 625	2 780	2 567	222	25.26	8.14	7.52	202	23.4
1960	8 853	2 670	2 713	210	25.52	7.70	7.82	169	19.1
1961	8 892	2 789	2 677	286	25.40	7.89	7.57	151	16.8
1962	8 894	2 870	2 485	249	25.01	8.07	6.99	184	20.7
1963	8 530	2 818	2 579	261	23.66	7.82	7.15	153	17.9
1964	8 252	3 174	2 869	230	22.64	8.71	7.87	166	20.1
1965	7 535	3 043	2 888	280	20.48	8.27	7.85	125	16.6
1966	7 401	3 159	2 946	319	19.92	8.50	7.93	108	14.6
1967	7 547	3 228	3 213	248	20.10	8.60	8.56	130	17.2
1968	8 317	3 284	3 426	303	21.89	8.64	9.02	143	17.2
1969	8 445	3 309	3 532	331	21.93	8.59	9.17	139	16.5
1970	8 185	3 174	3 535	426	21.09	8.16	9.11	116	14.2
1971	8 321	3 295	3 578	432	21.32	8.44	9.17	114	13.7
1972	7 824	3 227	3 426	446	19.94	8.22	8.73	127	16.2
1973	7 326	3 347	3 395	444	18.51	8.46	8.58	137	18.7
1974	7 398	3 484	3 567	536	18.52	8.72	8.93	123	16.6
1975	6 982	3 339	3 242	591	17.26	8.26	8.02	128	18.3
1976	6 702	3 389	3 477	1 761	16.44	8.32	8.53	77	11.5
1977	6 735	3 269	3 166	1 134	16.40	7.96	7.71	99	14.7
1978	6 788	3 271	3 148	1 132	16.41	8.00	7.61	97	14.3
1979	6 757	3 167	3 245	1 167	16.17	7.58	7.79	95	14.1
1980	6 735	3 392	3 433	1 285	15.90	7.80	8.20	79	11.7
1981	7 230	3 320	3 515	1 139	16.93	7.77	8.23	86	12.0
1982	7 103	3 444	3 576	1 391	16.53	8.01	8.32	55	7.9
1983	7 062	3 319	3 644	1 359	16.32	7.67	8.42	74	10.5
1984	7 132	3 596	3 704	1 185	16.30	8.22	8.46	81	11.4
1985	7 249	3 693	3 520	1 169	16.38	8.35	7.95	87	12.1
1986	6 950	3 454	3 302	1 245	15.57	7.74	7.40	74	10.7
1987	6 790	3 637	3 141	1 115	15.17	8.12	7.02	65	9.6
1988	6 779	3 547	3 035	1 220	15.11	7.91	6.77	59	8.7
1989	6 813	3 690	3 111	1 269	15.10	8.18	6.89	72	10.6
1990 p	7 004	3 700	3 026	1 170	15.44	8.11	6.63	59	8.4

(Chapter 7)

Employment: Unemployment: Wage Rates and Earnings, Tasmania

Year	Employed persons, labour force survey (a)	Unemployment		Prescribed weekly wage rates, adult males, Hobart at 31 December		Average weekly earnings, all male employees for June qtr	
		Labour force survey (a)	Persons receiving unemploy- ment benefits (b)	Basic wage (c)	Minimum wage (d)	Amount (e)	Increase (f)
	('000)	('000)	no.	\$	\$	\$	per cent
1940			..	8.10	..	n.a.	n.a.
1941			..	8.50	..	n.a.	n.a.
1942			..	9.20	..	9.60	n.a.
1943			..	9.50	..	10.40	8.3
1944			..	9.40	..	10.60	1.9
1945			..	9.40	..	10.50	-1.0
1946			83	10.30	..	10.80	2.9
1947			44	10.70	..	12.00	11.1
1948			28	11.80	..	14.00	16.7
1949			32	12.80	..	15.60	11.4
1950			32	16.00	..	18.00	15.4
1951			10	19.90	..	22.10	22.8
1952			104	23.00	..	27.10	22.6
1953			323	24.20	..	28.80	6.3
1954			109	24.20	..	30.60	6.3
1955			52	24.20	..	33.60	9.8
1956			71	25.20	..	35.30	5.1
1957			410	26.20	..	36.60	3.7
1958			639	26.70	..	37.50	2.5
1959			670	28.20	..	37.60	0.3
1960			522	28.20	..	41.50	10.4
1961			1 416	29.40	..	41.70	0.5
1962			1 778	29.40	..	44.60	7.0
1963			1 777	29.40	..	45.10	1.1
1964			1 399	31.40	..	46.50	3.1
1965			946	31.40	..	49.20	5.8
1966	144.0	2.8	457	33.40	..	51.50	4.7
1967	148.3	3.0	546	34.40	38.15	55.80	8.3
1968	155.1	2.2	635	35.75	40.45	58.50	4.8
1969	153.7	3.3	600	36.80	43.00	63.10	7.9
1970	155.9	3.3	437	36.80	43.00	68.40	8.4
1971	157.4	2.9	873	39.00	47.00	76.70	12.1
1972	157.1	3.8	1 697	41.00	51.70	83.20	8.5
1973	161.6	3.0	2 330	43.50	60.70	93.60	12.5
1974	165.9	3.9	1 769	46.00	68.70	109.60	17.1
1975	165.0	7.4	4 439	50.00	83.50	138.50	26.4
1976	164.2	8.1	7 228	62.90	102.30	155.10	12.0
1977	168.7	9.9	7 078	72.40	114.00	175.10	12.9
1978	164.5	11.6	9 757	77.50	121.90	190.10	8.6
1979	173.5	8.3	10 420	(g) 80.00	(g) 125.80	204.20	7.4
1980	172.1	12.0	11 121	87.10	137.00	234.70	14.9
1981	174.9	12.1	12 929	93.60	147.20	261.60	11.5
1982	167.3	17.5	16 263	93.60	168.00	312.00	19.3
1983	167.9	20.0	20 355	97.60	175.20	337.10	8.0
1984	169.5	20.4	19 150	101.60	182.40	371.40	10.2
1985	180.3	19.6	18 870	108.20	194.20	390.20	5.1
1986	183.3	16.3	18 702	110.69	198.70	417.10	6.9
1987	182.3	20.5	18 880	120.69	208.70	438.20	5.1
1988	191.8	18.9	18 280	130.49	221.10	460.00	5.0
1989	189.8	20.0	16 243	150.49	241.10	504.80	9.8
1990	197.3	20.8	17 839	155.00	248.30	530.80	5.2
1991	191.8	25.4	23 895	n.y.a.	n.y.a.	535.80	0.9

(a) At August each year to 1977, at June each year from 1978 (seasonally adjusted).

(b) Persons on benefit on last Friday of June. From 1991 the monthly average number was used. Unemployment Benefit was first paid in July, 1945. (Source: Department of Social Security.)

(c) The rates shown up to and including 1966 are those in Commonwealth awards. State Wages Boards awards are shown from 1967.

(d) The Commonwealth and State rates prior to 1967 were identical except between 1956 and 1959 when the State's rates were slightly higher.

(e) The Tasmanian Wages Boards introduced the concept of the minimum wage in June 1967.

(f) Based on the survey of average weekly earnings introduced in September quarter 1981. Amounts for June 1981 and earlier periods are estimated by linking the various pay-roll tax series with the new series at September quarter 1981.

(g) Over June quarter of previous year.

(h) Tasmanian decision of 13 July 1979 following National Wage Case decision of 27 June 1979.

(Chapter 12)

Passenger Arrivals and Departures, Tasmania (a)

Year	Arrivals	Departures	Year	Arrivals	Departures	Year	Arrivals	Departures
	no.	no.		no.	no.		no.	no.
1860	3 432	2 782	1950	127 709	122 333	1971	340 163	340 642
1865	3 597	3 691	1951	137 341	129 514	1972	356 561	355 224
1870	5 982	5 936	1952	130 583	126 979	1973	450 707	448 556
1875	6 535	8 083	1953	127 484	125 812	1974	508 449	502 488
1880	10 411	10 034	1954	126 976	128 424	1975	510 639	514 278
1885	14 822	15 228	1955	137 834	137 144	1976	509 356	507 384
1890	29 517	29 086	1956	143 104	141 686	1977	538 665	530 535
1895	18 767	19 357	1957	143 601	141 310	1978	557 275	559 293
1900	23 056	25 479	1958	141 814	141 995	1979	576 050	574 790
1905	31 116	33 311	1959	162 761	160 569	1980	591 152	591 941
1910	35 377	38 159						
1915	39 767	44 764	1960	182 537	183 513	1981	591 699	593 7801
1920	34 829	35 648	1961	186 423	184 165	1982	583 770	588 519
1925	40 227	43 757	1962	185 268	186 023	1983	563 666	563 554
1930	40 291	41 110	1963	198 443	199 918	1984	580 350	578 061
1935	42 470	42 912	1964	219 930	223 380	1985	627 577	631 514
1940	(b) 51 672	(b) 53 644	1965	248 964	249 617	1986	629 617	628 245
1945	n.a.	n.a.	1966	257 463	256 068	1987	624 306	626 297
1946	(b) 24	(b) 159	1967	270 934	271 812	1988	681 541	683 635
1947	(b) 49 920	(b) 40 833	1968	276 798	276 856	1989	576 616	591 152
1948	112 666	110 490	1969	296 186	297 069	1990	684 264	679 941
1949	117 614	113 232	1970	320 867	323 449			

(a) Series of recorded interstate arrivals and departures prepared by State Department of Tourism replaces ABS series from 1972.

(b) Excludes troop movements.

(Chapter 12)

Passenger Arrivals and Departures, Tasmania

Period	Arrivals				Total departures	Cruise ships	
	By air		By sea	Total		Arrivals	Departures
	Interstate	New Zealand					
1984	512 257	7 054	61 039	580 350	578 061	n.a.	n.a.
1985	550 045	8 419	69 113	627 577	631 514	n.a.	n.a.
1986	524 342	10 136	95 139	629 617	628 245	n.a.	n.a.
1987	526 517	9 446	88 343	624 306	626 297	7 398	6 745
1988	571 344	8 625	101 572	681 541	683 635	5 497	6 161
1989	449 481	8 489	118 646	576 616	591 152	4 149	4 149
1990	555 632	8 629	120 004	684 264	679 941	3 255	3 255

Source: Department of Tourism.

(Chapter 8)

Religions of the Population at Census Dates, Tasmania (a)(b)

Particulars	Census date									
	April 1921	June 1933	June 1947	June 1954	June 1961	June 1966	June 1971	June 1976	June 1981	June 1986
Church of England	no. 112 222	105 228	123 158	147 407	159 101	166 023	169 089	158 748	151 207	154 748
Methodist	no. 27 171	26 470	33 358	38 236	42 236	43 084	42 173	37 107	19 906	-
Catholic (c)	no. 35 465	33 189	39 844	53 042	63 993	71 089	77 250	75 092	78 143	80 479
Presbyterian	no. 14 796	13 194	12 644	15 607	16 757	17 498	17 281	14 899	11 575	12 084
Baptist	no. 5 332	4 666	5 374	6 293	7 227	7 759	8 039	7 940	7 965	8 092
Congregational	no. 4 543	3 963	4 007	4 425	4 193	4 530	4 134	3 266	1 790	1 241
Churches of Christ	no. 1 935	1 892	2 039	2 267	2 507	2 701	2 500	2 188	2 110	2 046
Protestant (undefined)	no. 2 271	1 979	1 661	2 157	1 975	1 924	4 243	3 455	5 217	3 034
Salvation Army	no. 1 357	1 142	1 612	1 815	2 316	2 661	3 176	2 880	3 202	3 437
Uniting Church (d)	no. -	-	-	-	-	-	-	-	17 668	36 724
Other Christian	no. 3 597	3 530	4 518	8 238	11 229	13 058	16 510	18 667	18 631	22 907
Total Christian	no. 208 689	195 253	228 215	279 487	311 534	330 327	344 395	324 242	317 414	324 792
Non-Christian	no. 245	87	173	256	268	485	561	779	1 263	1 967
Indefinite	no. 520	373	797	796	1 766	2 275	993	2 223	11 162	2 292
No religion	no. 399	159	506	516	775	2 020	20 221	27 624	36 222	47 852
No reply	no. 3 927	31 727	27 387	27 697	35 997	36 328	24 243	47 998	52 896	59 363

(a) Full-blood Aborigines excluded from census data prior to 1966.

(b) As recorded. Not adjusted for under-enumeration.

(c) Includes Catholic and Roman Catholic.

(d) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches.

(Chapter 9)

Education: Post Secondary and Tertiary, Tasmania

Year	Tasmanian State Institute of Technology			University		
	Teaching staff full-time	Students		Teaching staff full-time	Students	
		Full-time	Part-time		Full-time	Part-time
1900	..	..	..	9	51	
1910	..	..	..	10	147	
1920	..	..	..	23	179	
1930	..	..	..	29	449	
1940	..	..	..	47	452	
1950	..	..	..	64	673	
1955	..	..	..	78	800	
1960	..	..	..	108	1 395	
1965	n.a.	n.a.	n.a.	145	2 300	
1970	53	238	896	202	2 260	864
1975	203	1 748	687	280	2 314	1 085
1976	206	1 824	818	293	2 468	1 068
1977	201	1 836	750	298	2 685	840
1978	210	1 855	941	309	2 514	1 003
1979	204	1 893	934	301	2 377	1 058
1980	196	1 806	1 120	301	2 344	1 173
1981	123	957	1 125	373	3 189	1 893
1982	129	929	1 251	372	3 078	2 132
1983	141	1 042	1 492	359	3 101	2 128
1984	146	1 124	1 575	359	3 243	2 145
1985	141	1 144	1 468	376	3 397	2 050
1986	144	1 278	1 540	367	3 479	2 289
1987	147	1 487	1 274	363	3 457	1 786
1988	n.a.	1 798	1 305	375	3 712	1 665
1989	n.a.		3 392	379	3 992	1 626
1990	n.a.		4 192	376	4 232	1 645

(Chapter 9)

Education: Primary and Secondary, Tasmania

Year	Government schools			Non-government schools		
	Number of schools	Teaching staff (a)	Students (a)	Number of schools	Teaching staff (b)	Students (b)
1900	309	(c) 612	24 157	224	n.a.	9 749
1910	367	677	30 805	124	420	6 278
1920	470	1 102	39 360	84	317	5 872
1930	508	1 358	40 032	66	326	5 862
1940	431	1 398	37 369	63	329	6 139
1950	332	1 687	46 394	58	375	8 330
1955	291	2 277	60 779	57	424	10 454
1960	287	2 540	65 049	60	544	12 716
1965	296	(d) 3 243	71 615	64	666	14 688
1970	283	3 756	79 385	68	810	14 623
1975 (e) (f)	247	4 247	74 332	58	717	13 838
1976 (e)	250	4 241	74 533	61	720	13 825
1977 (e) (g)	250	4 360	74 235	62	729	13 938
1978 (e)	253	4 584	73 676	61	757	14 251
1979 (e)	252	4 752	73 016	60	792	14 401
1980	256	4 908	72 283	59	831	14 620
1981 (g)	258	4 948	70 486	61	854	14 917
1982	259	4 901	69 142	70	904	15 326
1983	257	5 025	68 387	70	976	15 940
1984	257	5 145	67 787	71	1 030	16 464
1985	256	5 011	66 863	70	1 069	17 050
1986	255	4 985	66 050	69	1 115	17 459
1987	261	4 732	65 401	66	1 130	17 602
1988	257	4 811	65 404	65	1 153	17 795
1989	254	4 732	64 977	66	1 180	18 394
1990	250	4 546	65 349	66	1 208	19 030

(a) Aggregate enrolment for whole year prior to 1960. From 1960 as at 1 August and excluding adult correspondence students.

(b) Aggregate enrolment for whole year to 1919. From 1920 to 1961 enrolment as at 31 December and thereafter at 1 August.

(c) Includes teachers, pupil-teachers and paid monitors; excludes training college staff, junior monitors, subsidised teachers, etc.

(d) Includes part-time teachers but excludes teachers at special schools from 1962.

(e) Full-time plus full-time equivalent of part-time teachers.

(f) From 1974 figures exclude kindergartens.

(g) From 1977 Government schools figures are shown using National Schools Collection definitions.

(Chapter 11)

Commonwealth Pensions: Tasmania

Year	Age and invalid pensions						Disability pensions (a)		Widows' pensions	
	Number of pensioners		Expenditure on pensions		Weekly rate (b)	Operative from	Number in force	Amount paid	Number in force	Amount paid
	Age	Invalid	Age	Invalid						
	no.	no.	\$'000	\$'000	\$	date	no.	\$'000	no.	\$'000
1909-10	3 245	-	159	-	1.00	1.7.1909	-	-	-	-
1914-15	4 528	1 349	223	68	1.00	..	-	-	-	-
1919-20	4 806	1 947	364	145	1.50	13.9.1923	9 551	524	-	-
1924-25	5 856	2 036	503	180	1.75	8.10.1925	10 770	590	-	-
1929-30	7 678	2 456	753	248	2.00	23.7.1931	12 321	695	-	-
1934-35	8 495	2 975	737	263	1.75	26.12.1940	12 523	724	-	-
1939-40	10 614	2 552	1 055	256	2.10	19.8.1943	11 729	808	-	-
1944-45	9 512	2 699	1 271	368	2.70	21.10.1948	12 081	1 103	1 564	207
1949-50	11 402	3 158	2 359	670	4.25	2.11.1950	19 168	2 036	1 384	314
1950-51	11 548	2 885	2 819	724	5.00	1.11.1951	21 407	2 595	1 366	323
1951-52	11 716	2 762	3 457	831	6.00	2.10.1952	22 863	3 121	1 358	376
1952-53	12 380	2 602	4 107	879	6.75	29.10.1953	23 966	3 429	1 380	441
1953-54	12 906	2 605	4 358	908	7.00	..	24 935	3 641	1 371	461
1954-55	13 679	2 681	4 795	967	7.00	..	25 731	3 934	1 409	475
1955-56	14 074	2 596	5 605	1 063	8.00	27.10.1955	26 483	4 035	1 419	537
1956-57	14 847	2 812	5 887	1 183	8.00	24.10.1957	26 751	4 054	1 476	607
1957-58	15 114	2 883	6 527	1 315	8.75	..	27 238	4 424	1 581	677
1958-59	15 434	3 070	6 660	1 419	8.75	8.10.1959	27 621	4 458	1 663	741
1959-60	15 835	3 206	7 471	1 605	9.50	..	28 048	4 832	1 773	833
1960-61	16 552	3 338	(c) 10 101	..	10.00	6.10.1960	28 305	5 166	1 849	940
1961-62	17 522	3 299	11 404	..	10.50	5.10.1961	28 398	4 988	1 912	1 037
1962-63	17 760	3 343	11 717	..	10.50	..	28 214	5 668	1 977	1 084
1963-64	18 303	3 363	12 343	..	11.50	14.11.1963	27 913	6 158	2 109	1 467
1964-65	18 892	3 532	13 184	..	12.00	1.10.1964	27 109	6 214	2 248	1 699
1965-66	19 181	3 444	13 439	..	12.00	..	26 446	6 919	2 327	1 791
1966-67	19 590	3 530	14 574	..	13.00	13.10.1966	25 629	6 645	2 432	1 988
1967-68	20 411	3 548	15 414	..	13.00	..	25 015	6 790	2 588	2 125
1968-69	21 029	3 819	16 768	..	14.00	10.10.1968	24 485	7 622	2 678	2 465
1969-70	23 915	4 051	19 517	..	15.00	9.10.1969	23 807	7 835	2 958	2 927
1970-71	24 894	4 316	21 835	..	15.50	8.10.1970	..	8 230	3 138	3 327
1971-72	25 668	4 498	25 543	..	16.00	8.4.1971	23 254	..	..	..
1972-73	29 107	4 855	33 656	..	17.25	7.10.1971	..	9 094	3 205	3 842
1973-74	31 904	5 087	43 032	..	18.25	4.5.1972	22 512	..	..	..
1974-75	34 269	5 460	60 118	..	20.00	Aug. 1972	..	9 857	3 600	5 136
1975-76	35 594	6 091	77 976	..	21.50	Mar. 1973	21 905	..	..	..
1976-77	36 954	6 612	91 788	..	23.00	Aug. 1973	..	11 176	3 932	6 582
1977-78	38 204	6 205	107 203	..	26.00	Apr. 1974	21 987	..	..	..
1978-79	38 885	6 427	117 678	..	31.00	Aug. 1974	..	13 697	4 103	8 521
1979-80	39 566	6 376	127 382	..	36.00	Apr. 1975	..	14 827	4 209	11 221
1980-81	40 000	6 487	142 519	..	38.75	Aug. 1975	21 474	..	..	..
1981-82	40 413	6 615	163 130	..	41.25	Apr. 1976	20 778	..	..	..
1982-83	40 838	6 767	176 095	..	43.50	Aug. 1976	..	16 637	4 572	12 455
1983-84	39 970	7 266	194 587	..	47.10	Apr. 1977	20 062	..	..	..
1984-85	39 162	7 614	209 200	..	51.45	Nov. 1977	..	18 676	5 001	14 660
1985-86	38 627	7 835	219 505	..	53.20	May 1978	18 844	..	..	..
1986-87	38 106	8 285	234 207	..	57.90	Nov. 1978	18 127	18 696	5 229	16 621
1987-88	37 777	8 607	260 530	..	..	Nov. 1979	17 502	19 389	5 358	18 884
1988-89	38 557	11 930	288 721	..	61.05	May 1980	16 944	21 918	5 230	21 003
1989-90	38 839	12 532	309 250	..	74.15	May 1982	16 681	22 965	5 153	23 160
1990-91	39 664	13 421	350 697	..	85.90	Nov. 1982	16 805	28 887	5 144	24 187
					91.90	Nov. 1984	16 783	33 968	5 009	25 885
					94.30	May 1985	16 743	38 882	4 979	27 699
					102.10	May 1986	16 774	31 855	4 897	28 992
					112.15	June 1987	15 337	31 844	4 723	29 762
					120.05	June 1988	15 121	35 220	4 556	31 983
					129.20	June 1989	15 164	36 382	n.a.	n.a.
					141.20	June 1990	15 771	39 954	n.a.	n.a.
					150.80	June 1991	15 495	43 988	n.a.	n.a.

(a) Previously 'war pensions', excludes pensions in respect of the Boer War which are paid by the United Kingdom.

(b) Maximum single rate payable; subject to means test.

(c) Separate figures for age and invalid pensions not available from 1960-61.

(Chapter 11)

Commonwealth Social Service Benefits Paid in Tasmania

Year	Family allowances total amount paid (a)	Maternity allowance		Unemployment benefit		Sickness benefit		Special benefit (b)	
		Claims admitted	Amount paid	Claims admitted	Amount paid	Claims admitted	Amount paid	Claims admitted	Amount paid
	\$'000	no.	\$'000	no.	\$'000	no.	\$'000	no.	\$'000
1912-13	-	3 611	n.a.	-	-	-	-	-	-
1944-45	1 057	5 582	n.a.	-	-	-	-	-	-
1949-50	2 483	7 408	n.a.	151	4	2 840	74	126	8
1954-55	(c) 4 065	7 940	255	471	(d) 32	1 943	(d) 103	106	24
1959-60	4 719	8 985	285	3 186	242	1 883	135	130	39
1964-65	6 306	7 821	251	5 255	583	2 238	201	122	52
1965-66	6 318	7 578	243	2 742	275	2 040	174	122	57
1966-67	6 912	7 606	243	3 166	228	2 147	190	160	47
1967-68	6 612	7 939	254	3 746	264	1 952	165	99	42
1968-69	6 710	8 373	267	3 984	297	2 070	166	403	55
1969-70	7 416	8 130	259	3 825	360	2 194	199	429	68
1970-71	6 686	8 594	274	4 388	366	2 687	327	388	71
1971-72	7 196	8 211	260	8 974	966	2 964	497	418	79
1972-73	8 185	7 615	241	12 536	2 095	3 295	792	459	128
1973-74	7 212	7 296	230	11 642	3 125	3 975	1 247	574	224
1974-75	6 610	7 225	229	22 088	7 746	4 144	1 692	800	443
1975-76	7 766	7 210	215	30 930	15 256	5 018	2 409	1 760	811
1976-77	31 197	6 729	215	23 981	17 963	4 662	2 380	1 827	979
1977-78	30 968	6 836	213	27 337	23 398	4 284	2 385	1 792	804
1978-79 (e)	28 924	n.a.	91	26 294	28 609	3 881	2 024	2 071	1 299
1979-80	30 549	-	-	26 316	29 665	3 554	2 299	2 051	1 487
1980-81	27 765	-	-	28 234	34 658	3 626	2 901	3 463	2 372
1981-82	30 320	-	-	32 147	49 233	3 707	3 595	3 999	2 956
1982-83	39 146	-	-	31 686	78 302	3 750	4 618	3 652	3 428
1983-84	42 820	-	-	27 308	90 126	3 555	5 221	3 858	3 714
1984-85	42 799	-	-	25 719	96 926	3 411	5 459	3 565	3 425
1985-86	43 873	-	-	24 362	99 558	3 332	6 411	3 173	3 335
1986-87	39 463	-	-	24 276	109 459	2 552	7 497	2 822	3 946
1987-88	39 342	-	-	22 814	(f) 118 192	2 316	8 396	4 207	(g) 5 570
1988-89	38 216	-	-	17 463	(f) 122 901	2 316	9 431	5 230	(g) 7 071
1989-90	53 632	-	-	16 660	(f) 127 667	2 700	10 238	6 600	(g) 8 672
1990-91	56 117	-	-	19 357	(f) 168 852	1 329	11 345	(h) 1 212	(g) 9 863

(a) Known as 'child endowment' up to 1975-76; replaced by increased 'family allowances' from 1 July 1976 in conjunction with abolition of tax rebates in respect of dependent children.

(b) Includes payments to migrants.

(c) Endowment extended to first child from 20 June 1950.

(d) Rates payable were doubled from 22 September 1952.

(e) Maternity allowance ceased 1 November 1978.

(f) Includes Job Search Allowance from 1 January 1988.

(g) Excludes Job Search Allowance (Special).

(h) Includes annual average number on benefits (was previously number of new grants).

(Chapter 13)

Land Settlement: Land Utilisation, Tasmania
(*000 ha)

Year (a)	Land settlement (b)				Year (d)	Land utilisation on rural establishments			
	Land		Crown land			Area under		Balance of area	Total area of rural establishments
	Alienated	In process of alienation	Leased or licensed (c)	Other		Crops (e)	Sown grasses (e)		
1860		1 242			1860-61	62			
1870		1 540	(f)	(f)	1870-71	64	(f)	(f)	(f)
1880		1 713			1880-81	57			
1890		1 900	293	4 640	1890-91	64	81		
1900		1 957	513	4 364	1900-01	91	124	1 782	1 996
1910	1 996	447	591	3 799	1910-11	116	200	1 862	2 178
1920	2 121	390	920	3 402	1920-21	120	267	2 216	2 603
1930	2 315	219	1 122	3 177	1930-31	108	305	2 241	2 654
1940	2 392	171	1 098	3 172	1940-41	103	313	2 282	2 698
1941	2 400	169	1 129	3 135	1941-42	114	318	2 316	2 748
1942	2 411	163	1 113	3 146	1942-43	121	n.a.	n.a.	2 641
1943	2 418	162	1 140	3 113	1943-44	136	164	2 287	2 587
1944	2 427	168	1 134	3 104	1944-45	139	165	2 331	2 635
1945	2 439	165	1 123	3 107	1945-46	132	234	2 256	2 622
1946	2 448	161	1 110	3 115	1946-47	123	230	2 237	2 590
1947	2 460	157	1 100	3 116	1947-48	112	223	2 167	2 502
1948	2 473	153	1 087	3 121	1948-49	112	268	2 098	2 478
1950	2 486	148	1 134	3 065	1949-50	118	308	2 169	2 594
1951	2 496	145	1 080	3 112	1950-51	122	322	2 176	2 621
1952	2 514	142	1 108	3 069	1951-52	124	237	2 155	2 516
1953	2 525	139	1 111	3 058	1952-53	130	326	2 198	2 654
1954	2 534	137	1 055	3 107	1953-54	142	336	2 156	2 635
1955	2 516	134	1 018	3 136	1954-55	132	363	2 177	2 672
1956	2 554	126	1 010	3 143	1955-56	137	400	2 145	2 682
1957	2 561	127	655	3 490	1956-57	122	424	2 088	2 634
1958	2 568	84	623	3 558	1957-58	122	458	2 070	2 649
1959	2 575	81	615	3 562	1958-59	144	461	2 055	2 660
1960	2 584	77	618	3 554	1959-60	135	491	2 009	2 635
1961	2 591	86	626	3 531	1960-61	153	487	1 995	2 635
1962	2 597	80	606	3 551	1961-62	155	508	1 988	2 651
1963	2 602	80	586	3 565	1962-63	165	515	1 919	2 599
1964	2 670	89	628	3 446	1963-64	158	552	1 871	2 581
1965	2 679	83	595	3 476	1964-65	167	576	1 855	2 598
1966	2 677	84	540	3 531	1965-66	158	622	1 849	2 629
1967	2 692	100	535	3 506	1966-67	181	628	1 825	2 633
1968	2 692	93	478	3 571	1967-68	170	680	1 813	2 663
1969	2 693	96	465	3 579	1968-69	193	618	1 776	2 587
1970	2 697	100	442	3 594	1969-70	169	737	1 732	2 637
1971	2 702	99	381	3 651	1970-71	172	747	1 712	2 631
1972	2 697	100	274	3 760	1971-72	147	772	1 688	2 607
1973	2 729	133	248	3 723	1972-73 (g)	80	856	1 656	2 592
1974	2 731	135	236	3 728	1973-74	74	920	1 567	2 561
1975	2 755	159	223	3 693	1974-75	67	921	1 504	2 492
1976	2 751	154	229	3 696	1975-76 (h)	60	935	1 464	2 459
1977	2 743	146	163	3 778	1976-77 (h)	65	904	1 340	2 308
1978	2 517	120	165	4 028	1977-78	70	910	1 302	2 281
1979	2 494	96	148	4 092	1978-79	80	904	1 247	2 232
1980	2 487	90	n.a.	n.a.	1979-80	78	895	1 256	2 229
1981	2 486	90	n.a.	n.a.	1980-81	84	903	1 234	2 220
1982	2 590	-	4 235		1981-82	90	910	1 168	2 168
1983	n.a.	n.a.	n.a.	n.a.	1982-83	98	903	1 167	2 168
1984	n.a.	n.a.	n.a.	n.a.	1983-84	101	905	1 155	2 162
1985	n.a.	n.a.	n.a.	n.a.	1984-85	99	918	1 103	2 120
1986	n.a.	n.a.	n.a.	n.a.	1985-86	88	916	1 082	2 087
1987	n.a.	n.a.	n.a.	n.a.	1986-87 (i)	78	832	963	1 873
1988	n.a.	n.a.	n.a.	n.a.	1987-88	85	832	954	1 871
1989	n.a.	n.a.	n.a.	n.a.	1988-89	82	853	949	1 883
1990	n.a.	n.a.	n.a.	n.a.	1989-90	83	856	995	1 933

(a) At 31 December until 1948; at 31 March for 1950 and subsequent years.

(b) Area of State, 68 300 square kilometres.

(c) Excludes areas under pulpwood concessions and exclusive forest permits.

(d) Year ended 31 March.

(e) Area of sown grasses cut for hay, seed and green fodder is included under 'crops'.

(f) Not available on a comparable basis.

(g) From 1972-73 area of sown grasses cut for hay, seed and green fodder are included under 'sown grasses'.

(h) Not strictly comparable with earlier years due to changes in definition of a 'rural establishment'.

(i) The scope of the census for 1986-87 differs from previous years.

(Chapter 13)

Area and Production of Principal Crops, Tasmania

Year	Barley for grain			Oats for grain			Wheat for grain			Blue peas		
	Area	Total production	Yield per hectare	Area	Total production	Yield per hectare	Area	Total production	Yield per hectare	Area	Total production	Yield per hectare
	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes
1860-61	2 524	2 877	1.14	12 263	16 844	1.37	26 891	38 267	1.42	n.a.	n.a.	n.a.
1870-71	3 082	3 676	1.19	12 523	12 568	1.00	23 222	24 240	1.04			
1880-81	3 358	3 844	1.14	8 034	7 990	0.99	20 243	20 271	1.00			
1890-91	1 771	2 269	1.28	8 393	9 444	1.13	13 133	17 378	1.32			
1900-01	1 822	2 657	1.46	18 240	25 580	1.40	20 973	30 011	1.43			
1910-11	2 119	3 234	1.53	25 854	37 515	1.45	21 142	30 290	1.43	3 476	4 945	1.42
1920-21	2 489	3 667	1.47	20 426	27 530	1.35	11 446	15 294	1.34			
1930-31	2 506	3 832	1.53	14 536	19 141	1.32	7 732	10 581	1.37	2 859	4 060	1.42
1931-32	3 390	2 721	0.80	7 451	6 488	0.87	4 744	4 944	1.04	2 439	2 079	0.85
1932-33	3 478	4 808	1.38	12 404	15 059	1.21	8 492	11 704	1.38	3 687	5 688	1.54
1933-34	3 173	3 915	1.23	12 626	15 532	1.23	9 752	15 153	1.55	5 663	6 592	1.16
1934-35	2 339	3 989	1.71	14 816	19 168	1.29	6 740	8 311	1.23	5 283	4 722	0.89
1935-36	2 115	2 107	1.00	9 683	10 123	1.05	4 210	5 027	1.19	4 116	3 430	0.83
1936-37	2 811	5 470	1.95	8 884	13 659	1.54	8 627	15 430	1.79	2 613	3 912	1.50
1937-38	3 762	6 958	1.85	13 128	18 767	1.43	8 531	14 216	1.67	1 882	2 707	1.44
1938-39	3 518	4 731	1.34	10 049	11 727	1.17	3 986	5 548	1.39	1 787	2 050	1.15
1939-40	3 125	4 446	1.42	9 352	9 626	1.03	3 033	2 911	0.96	2 113	3 407	1.61
1940-41	2 286	3 349	1.47	7 099	7 569	1.07	3 253	3 794	1.17	3 830	5 237	1.37
1941-42	2 153	2 672	1.24	11 043	15 248	1.38	2 596	3 924	1.51	7 485	8 452	1.13
1942-43	1 104	1 428	1.29	5 325	5 310	1.00	1 671	1 982	1.19	10 989	10 961	1.00
1943-44	1 391	2 150	1.55	3 943	5 438	1.38	1 958	3 301	1.69	15 176	15 785	1.04
1944-45	2 189	3 616	1.65	5 977	7 630	1.28	1 551	2 504	1.61	8 828	13 014	1.47
1945-46	2 730	2 803	1.03	5 656	5 120	0.91	2 016	1 801	0.89	9 420	7 922	0.84
1946-47	2 532	3 538	1.40	9 181	10 825	1.18	3 051	3 763	1.23	4 773	6 364	1.33
1947-78	3 298	4 961	1.50	6 910	6 548	0.95	3 147	3 195	1.02	2 783	3 938	1.42
1948-49	2 966	4 728	1.59	4 734	4 756	1.00	2 779	4 211	1.52	2 625	3 999	1.52
1949-50	1 759	2 975	1.69	9 232	10 499	1.14	2 215	3 440	1.55	3 101	3 955	1.28
1950-51	1 320	2 061	1.56	9 486	7 802	0.82	2 152	2 564	1.19	3 395	4 630	1.36
1951-52	1 716	3 400	1.98	10 740	10 803	1.01	1 458	2 541	1.74	3 078	5 338	1.73
1952-53	3 253	4 930	1.52	8 114	5 197	0.64	2 707	4 227	1.56	1 411	1 903	1.35
1953-54	3 819	6 738	1.76	8 141	8 381	1.03	3 921	7 116	1.81	2 159	3 096	1.43
1954-55	2 936	4 541	1.55	9 154	8 212	0.90	2 955	4 286	1.45	2 292	3 093	1.35
1955-56	2 558	4 339	1.70	11 604	9 964	0.86	2 519	3 478	1.38	2 334	3 690	1.58
1956-57	2 865	5 341	1.86	6 701	4 594	0.69	1 578	2 393	1.52	3 349	5 088	1.52
1957-58	3 393	6 140	1.81	8 381	8 762	1.05	2 381	4 148	1.74	2 923	3 854	1.32
1958-59	3 777	6 696	1.77	8 984	8 921	0.99	2 605	4 423	1.70	1 002	1 302	1.30
1959-60	5 016	9 511	1.90	8 910	9 305	1.04	3 344	4 912	1.47	1 285	2 148	1.67
1960-61	6 204	7 821	1.26	9 449	7 114	0.75	2 797	4 003	1.43	1 332	1 198	0.90
1961-62	7 579	13 794	1.82	10 908	10 676	0.98	6 300	9 327	1.48	1 566	2 814	1.80
1962-63	7 993	14 340	1.79	12 587	15 046	1.20	6 208	11 322	1.82	2 299	3 409	1.48
1963-64	5 581	9 414	1.69	12 280	15 339	1.25	7 107	13 047	1.84	2 087	2 693	1.29
1964-65	6 264	12 031	1.92	11 366	9 463	0.83	6 801	9 842	1.45	1 603	2 752	1.72
1965-66	8 056	15 541	1.93	11 449	12 304	1.07	5 709	9 955	1.74	2 223	2 779	1.25
1966-67	8 521	17 540	2.06	14 532	17 236	1.19	5 159	10 412	2.02	1 769	3 039	1.72
1967-68	9 733	20 096	2.06	14 314	18 430	1.29	4 864	8 548	1.76	1 725	2 540	1.47
1968-69	10 608	20 092	1.89	12 721	10 598	0.83	7 039	11 088	1.58	1 358	2 160	1.59
1969-70	12 016	24 896	2.07	8 971	8 272	0.92	5 962	9 531	1.60	1 577	3 224	2.04
1970-71	12 884	29 825	2.31	9 444	8 839	0.94	4 479	7 638	1.71	2 023	4 608	2.28
1971-72	12 576	27 753	2.21	6 432	7 065	1.10	4 570	8 299	1.82	1 025	1 650	1.61
1972-73	12 802	18 711	1.46	6 477	7 144	1.10	4 251	7 701	1.81	504	387	0.77
1973-74	11 121	23 790	2.13	9 173	8 247	0.89	2 521	3 510	1.39	587	1 071	1.74
1974-75	12 020	27 266	2.27	6 069	5 496	0.90	1 535	2 282	1.48	969	2 171	2.24
1975-76	11 475	18 389	1.60	3 924	3 497	0.89	1 644	1 728	1.05	209	261	1.25
1976-77	11 644	24 571	2.11	6 387	8 801	1.38	1 980	3 929	1.98	81	139	1.72
1977-78	11 444	19 403	1.70	4 616	4 279	0.93	1 257	1 545	1.23	326	417	1.28
1978-79	11 938	26 971	2.26	8 564	11 825	1.38	1 366	2 867	2.10	466	928	1.99
1979-80	10 558	17 304	1.60	7 489	7 937	1.10	1 972	3 727	1.90	548	684	1.20
1980-81	10 056	18 307	1.82	8 781	11 146	1.26	1 614	2 545	1.57	413	587	1.42
1981-82	12 108	23 267	1.92	9 923	13 381	1.35	1 293	2 342	1.81	459	740	1.61
1982-83	12 358	21 925	1.80	7 965	8 912	1.10	928	1 489	1.60	330	520	1.60
1983-84	15 059	34 119	2.30	13 978	24 729	1.80	1 142	2 841	2.50	388	981	2.50
1984-85	12 352	29 700	2.40	9 851	15 855	1.60	2 456	4 389	1.80	799	2 079	2.60
1985-86	12 209	27 722	2.27	10 264	16 530	1.61	1 837	4 014	2.18	1 042	2 133	2.05
1986-87	8 487	20 681	2.44	7 765	11 215	1.44	1 729	4 739	2.74	983	1 222	1.24
1987-88	8 024	21 549	2.69	9 560	15 552	1.63	1 179	3 815	3.24	297	593	2.00
1988-89	7 820	22 022	2.82	10 233	17 925	1.75	771	2 199	2.85	264	539	2.04
1989-90	7 983	19 320	2.42	7 568	12 824	1.69	792	2 687	3.39	105	130	1.24

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(Chapter 13)

Area and Production of Principal Crops, Tasmania - continued

Year	Potatoes			Hops			Pasture hay			Apples		
	Area	Total production	Yield per hectare	Bearing area	Total production	Yield per hectare	Area	Total production	Yield per hectare	Bearing area (a)	Total production	Yield per hectare
	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes	ha	tonnes	tonnes
1860-61	3 084	34 128	11.07	n.a.	n.a.	n.a.	12 880	63 318	4.92	n.a.	2 267	n.a.
1870-71	3 975	36 606	9.21	260	339	1.30	13 602	41 417	3.04		2 819	
1880-81	4 217	33 070	7.84	230	292	1.27	12 794	36 459	2.85		2 953	
1890-91	8 147	74 332	9.12	151	196	1.30	18 365	52 856	2.88		7 030	
1900-01	9 335	95 368	10.22	253	316	1.25	24 868	95 710	3.85		10 497	
1910-11	10 615	71 215	6.71	420	805	1.92	29 539	117 039	3.96	10 364	25 681	4.34
1920-21	12 950	90 102	6.96	516	845	1.64	45 980	179 636	3.91		44 941	
1930-31	15 066	96 818	6.43	393	760	1.93	33 697	131 027	3.89	9 672	72 394	7.48
1931-32	14 727	96 920	6.58	345	725	2.10	34 118	94 081	2.76	9 377	111 334	11.87
1932-33	14 475	99 809	6.90	321	628	1.96	37 501	143 403	4.20	9 402	84 015	8.94
1933-34	14 778	82 578	5.59	328	730	2.22	31 414	111 153	3.54	9 436	94 360	10.00
1934-35	14 714	71 142	4.83	334	831	2.49	38 857	152 492	3.92	9 485	74 947	7.90
1935-36	14 050	87 183	6.21	352	981	2.79	30 247	98 443	2.53	9 296	75 251	8.09
1936-37	14 960	140 781	9.41	365	950	2.60	36 177	139 068	3.84	8 745	87 844	10.05
1937-38	13 139	101 574	7.73	357	958	2.68	29 561	114 809	3.88	8 881	91 292	10.28
1938-39	10 803	90 764	8.40	373	1 041	2.79	32 358	111 291	3.44	8 684	109 048	12.56
1939-40	12 323	116 245	9.43	368	808	2.20	38 957	143 674	3.69	8 850	98 075	11.08
1940-41	15 121	115 871	7.66	369	1 351	3.66	30 789	96 708	3.14	8 808	113 277	12.86
1941-42	12 400	111 613	9.00	427	1 280	3.00	37 488	149 997	4.00	8 970	121 107	13.50
1942-43	16 359	138 112	8.44	448	1 183	2.64	33 209	111 721	3.36	8 889	109 410	12.31
1943-44	24 484	221 296	9.04	435	1 267	2.91	40 178	156 303	3.89	8 896	152 846	17.18
1944-45	32 817	350 773	4.55	441	1 102	2.50	38 855	148 253	3.82	8 723	125 165	14.35
1945-46	22 762	239 930	10.54	445	904	2.03	40 371	118 958	2.95	8 702	162 353	18.66
1946-47	17 493	173 359	9.91	490	1 005	2.05	42 093	172 103	4.09	8 544	80 548	9.43
1947-48	16 342	145 037	8.88	506	1 113	2.20	34 137	139 857	4.10	8 239	150 389	18.25
1948-49	13 079	133 915	10.24	508	694	1.37	36 656	153 118	4.18	7 826	48 828	6.24
1949-50	13 804	123 958	8.98	518	977	1.89	36 962	158 151	4.28	7 661	91 330	11.92
1950-51	12 780	125 990	9.86	518	1 125	2.17	39 007	163 301	4.19	7 378	92 359	12.52
1951-52	12 753	153 424	12.03	531	778	1.47	39 563	175 051	4.42	7 273	93 921	12.91
1952-53	14 304	116 338	8.13	524	1 367	2.61	44 534	195 289	4.39	7 200	71 575	9.94
1953-54	13 971	146 616	10.49	518	973	1.88	49 877	245 459	4.92	7 184	101 047	14.07
1954-55	10 606	102 621	9.68	539	1 353	2.51	39 051	160 495	4.11	6 890	95 426	13.85
1955-56	8 434	79 181	9.39	531	1 437	2.71	55 505	265 619	4.79	6 950	112 896	16.24
1956-57	7 740	91 140	11.78	569	974	1.71	49 837	242 209	4.86	6 754	64 792	9.59
1957-58	8 780	103 129	11.75	571	1 302	2.28	44 581	208 062	4.67	6 804	126 403	18.58
1958-59	6 550	87 279	13.32	579	1 535	2.65	62 250	306 923	4.93	6 651	94 931	14.27
1959-60	6 283	99 573	15.85	581	1 270	2.19	51 211	224 778	4.39	6 509	104 226	16.02
1960-61	4 401	39 677	9.02	569	1 279	2.25	69 206	331 206	4.79	6 404	106 571	16.64
1961-62	4 504	72 709	16.14	571	1 287	2.25	63 632	289 971	4.56	6 239	149 436	23.95
1962-63	5 600	83 870	14.98	588	1 298	2.21	66 952	318 028	4.75	6 268	119 297	19.03
1963-64	4 373	66 470	15.20	592	717	1.21	60 557	253 175	4.18	6 291	162 791	25.88
1964-65	3 801	57 978	15.25	597	947	1.59	72 947	370 204	5.07	6 286	118 250	18.81
1965-66	4 853	77 626	16.00	603	1 392	2.31	59 824	261 366	4.37	6 254	159 343	25.48
1966-67	4 159	74 476	17.91	594	948	1.60	82 225	443 919	5.40	6 165	120 040	19.47
1967-68	4 435	80 327	18.11	608	1 363	2.24	72 373	314 060	4.34	6 048	151 322	25.02
1968-69	4 638	73 278	15.80	616	1 582	2.57	85 212	502 159	5.89	5 863	135 986	23.19
1969-70	3 790	67 995	17.94	565	1 268	2.24	69 526	367 340	5.28	5 804	140 977	24.29
1970-71	3 640	72 591	19.94	452	1 077	2.38	85 565	447 766	5.23	5 715	140 463	24.58
1971-72	3 593	70 370	19.59	539	1 159	2.15	81 176	449 936	5.54	5 218	111 887	21.44
1972-73	3 330	78 286	23.51	616	1 450	2.35	53 937	215 580	4.00	4 980	133 449	26.80
1973-74	3 127	62 866	20.10	703	1 949	2.77	88 884	448 355	5.04	4 148	113 012	27.24
1974-75	4 143	95 610	23.07	662	1 439	2.17	78 557	375 969	4.79	3 335	95 247	28.56
1975-76	3 354	95 614	28.51	513	1 129	2.20	70 262	322 235	4.59	2 947	72 529	24.61
1976-77	3 705	112 269	30.30	587	1 330	2.27	69 730	334 961	4.80	2 741	71 781	26.19
1977-78	3 592	107 240	29.86	567	1 201	2.12	46 480	166 495	3.58	2 601	63 444	24.39
1978-79	3 646	124 385	34.12	578	1 457	2.52	65 835	295 464	4.49	2 693	85 230	31.65
1979-80	4 115	136 197	33.10	620	1 183	1.90	57 689	243 527	4.20	2 661	74 434	28.00
1980-81	4 335	155 965	35.97	672	1 558	2.32	61 555	241 817	3.93	2 758	76 033	27.57
1981-82	4 438	160 797	36.20	811	1 608	1.98	60 939	233 471	3.83	2 668	67 376	25.25
1982-83	4 749	173 147	36.50	889	1 589	1.80	48 588	157 117	3.20	2 545	69 421	27.30
1983-84	5 203	213 090	41.00	896	1 902	2.10	63 208	270 436	4.30	2 553	56 800	22.20
1984-85	5 209	203 472	39.10	869	1 341	1.54	51 667	212 544	4.10	2 588	61 624	23.81
1985-86	4 832	193 485	40.04	835	1 178	1.41	56 664	252 944	4.46	2 661	56 983	21.41
1986-87	5 744	223 245	38.87	651	1 165	1.79	45 116	195 081	4.32	2 612	48 088	18.41
1987-88	6 380	248 303	38.92	670	1 563	2.33	41 162	163 434	3.97	2 579	52 857	20.50
1988-89	6 001	256 846	42.80	709	1 752	2.47	56 752	272 893	4.81	2 654	52 637	19.83
1989-90	6 852	297 488	43.42	690	1 489	2.16	50 741	241 013	4.75	2 672	57 279	21.44

(a) From 1980-81: total area.

(Chapter 13)

Livestock Numbers: Production of Wool: Lambing, Tasmania

Year	Livestock (a)				Production of wool (a)			Lambing	
	Horses	Cattle	Sheep	Pigs	Number of sheep and lambs shorn	Average yield per sheep and lamb shorn (including crutchings)	Production of wool (including dead, fell-mongered & exported on skins)	Ewes mated	Lambs marked
	'000	'000	'000	'000	'000	kg	'000 kg	'000	'000
1860	21	83	1 701	31	n.a.	n.a.	2 058	n.a.	n.a.
1870	23	101	1 350	49	n.a.	n.a.	1 881	n.a.	n.a.
1880	25	127	1 794	48	n.a.	n.a.	4 094	n.a.	n.a.
1890	31	162	1 619	82	n.a.	n.a.	4 075	n.a.	n.a.
1900	32	166	1 684	68	n.a.	n.a.	3 064	n.a.	n.a.
1910	41	202	1 788	64	n.a.	n.a.	6 050	n.a.	n.a.
1920-21	39	208	1 571	38	1 551	2.94	5 218	416	299
1930-31	33	230	2 120	55	1 961	3.11	6 713	695	547
1931-32	31	232	2 012	41	1 913	3.14	6 668	647	478
1932-33	30	251	2 041	41	1 940	3.16	6 895	679	526
1933-34	30	262	2 035	38	1 991	2.91	6 441	686	517
1934-35	31	262	2 038	40	1 976	2.90	6 366	672	497
1935-36	31	270	2 140	45	2 010	3.37	7 394	735	586
1936-37	31	262	2 234	40	1 106	2.72	6 381	791	594
1937-38	32	255	2 521	43	2 460	2.60	7 076	873	722
1938-39	30	262	2 626	45	2 432	3.03	7 946	940	737
1939-40	30	252	2 677	45	2 509	3.08	8 316	940	756
1940-41	29	259	2 682	47	2 517	2.78	7 746	988	764
1941-42	29	253	2 398	45	2 416	3.04	7 704	844	669
1942-43	27	245	2 227	49	2 293	2.98	7 827	785	655
1943-44	26	230	2 188	46	2 260	2.93	8 130	811	669
1944-45	26	225	2 156	47	2 235	2.79	7 404	756	629
1945-46	25	216	1 926	47	2 015	2.73	7 411	701	509
1946-47	24	220	1 933	47	2 005	3.04	7 549	577	440
1947-48	23	244	2 087	45	2 085	3.18	6 952	779	656
1948-49	22	266	2 160	37	2 198	3.09	7 641	803	662
1949-50	21	275	2 170	36	2 255	2.97	7 692	800	652
1950-51	20	272	2 182	45	2 245	2.99	7 824	774	637
1951-52	19	226	2 338	47	2 379	3.42	9 305	839	726
1952-53	18	275	2 422	39	2 502	3.19	8 984	894	768
1953-54	17	295	2 465	46	2 553	3.16	9 124	916	788
1954-55	16	319	2 595	58	2 715	3.53	10 794	968	884
1955-56	15	332	2 673	49	2 733	3.45	10 624	979	877
1956-57	14	354	2 943	52	3 082	3.78	13 009	1 150	1 056
1957-58	13	371	3 298	63	3 388	3.50	13 234	1 266	1 199
1958-59	12	374	3 536	69	3 673	3.57	14 803	1 381	1 269
1959-60	11	375	3 494	67	3 834	3.44	15 241	1 461	1 354
1960-61	9	394	3 439	71	3 678	3.44	14 456	1 378	1 267
1961-62	9	425	3 532	76	3 830	3.56	15 635	1 440	1 368
1962-63	8	444	3 570	70	3 783	3.64	15 677	1 419	1 310
1963-64	8	450	3 600	83	3 868	3.47	15 425	1 458	1 353
1964-65	7	451	3 792	92	3 978	4.06	17 994	1 478	1 374
1965-66	n.a.	492	4 127	96	4 318	3.88	18 986	1 651	1 594
1966-67	7	522	4 321	86	4 517	3.88	19 574	1 688	1 574
1967-68	n.a.	564	4 428	87	4 572	3.34	17 376	1 779	1 522
1968-69	n.a.	586	4 395	95	4 632	4.09	21 299	1 736	1 561
1969-70	n.a.	646	4 560	111	4 792	4.05	21 861	1 831	1 715
1970-71	n.a.	733	4 517	113	4 806	3.99	21 671	1 889	1 705
1971-72	n.a.	829	4 237	104	4 607	4.03	21 063	1 805	1 617
1972-73	n.a.	900	3 824	85	4 251	3.76	18 154	1 604	1 369
1973-74	n.a.	884	3 964	68	4 101	3.90	17 549	1 535	1 361
1974-75	n.a.	921	4 136	64	4 153	4.12	18 888	1 644	1 466
1975-76	n.a.	909	4 249	70	4 352	4.13	19 951	1 677	1 515
1976-77	n.a.	819	4 015	65	4 229	3.82	18 109	1 640	1 378
1977-78	n.a.	733	3 969	64	4 242	4.00	18 294	1 672	1 529
1978-79	n.a.	657	4 157	61	4 319	4.04	19 079	1 712	1 582
1979-80	n.a.	649	4 245	63	4 550	4.00	20 003	1 861	1 706
1980-81	n.a.	659	4 381	54	4 627	3.91	20 049	1 892	1 674
1981-82	n.a.	628	4 513	47	4 841	3.69	21 783	2 010	1 843
1982-83	7	559	4 451	51	4 901	3.65	21 680	2 035	1 853
1983-84	6	542	4 583	48	4 845	3.74	21 887	2 014	1 794
1984-85	6	554	4 780	47	5 000	3.74	21 935	2 100	1 908
1985-86	6	570	5 083	45	5 270	3.88	24 994	2 018	1 859
1986-87 (b)	4	535	4 954	46	5 234	3.91	26 341	1 982	1 710
1987-88	5	542	4 746	48	5 260	3.67	23 519	1 871	1 569
1988-89	5	560	4 933	45	5 139	3.65	22 315	2 016	1 826
1989-90	4	569	5 337	42	5 540	3.86	27 065	n.y.a.	n.y.a.

(a) Up to 1925-26 numbers recorded were at varying dates in the years shown; from 1926 to 1940 at 31 December; from 1941-42 at 31 March.

(b) The scope of the census for 1986-87 differs from previous years.

(Chapter 13)

Livestock Slaughtered (a) for Human Consumption, Tasmania
(’000)

Year	Cattle and calves				Sheep and lambs			Pigs
	Bulls, bullocks & steers	Cows and heifers	Calves	Total	Sheep	Lambs	Total	
1929-30	20.4	13.0	1.8	35.3	228.1	113.4	341.5	64.3
1939-40	32.7	12.1	3.6	48.4	248.4	212.6	461.0	73.4
1949-50	29.3	23.7	4.6	57.6	245.7	262.4	508.1	50.9
1950-51	32.2	28.9	8.6	69.8	234.1	250.5	484.6	57.8
1951-52	33.4	29.5	8.7	71.6	226.4	256.1	482.5	65.9
1952-53	32.9	25.3	12.3	70.5	269.8	306.7	576.5	65.5
1953-54	22.6	25.2	14.0	61.8	286.7	307.3	594.0	59.5
1954-55	26.7	32.9	15.3	74.9	287.1	356.1	643.2	79.3
1955-56	32.3	36.4	19.8	88.4	256.2	388.8	645.0	87.6
1956-57	38.5	38.3	25.2	102.0	280.1	403.9	683.9	82.0
1957-58	42.0	45.3	30.5	117.9	283.2	451.2	734.5	90.6
1958-59	42.5	49.0	35.9	127.5	363.0	546.2	909.2	107.5
1959-60	47.1	56.9	40.5	144.6	505.0	661.5	1 166.4	114.5
1960-61	35.5	43.3	36.2	115.0	474.7	601.0	1 075.7	111.5
1961-62	42.6	48.6	44.2	135.5	510.6	649.3	1 159.9	120.5
1962-63	49.5	62.3	46.1	158.0	466.0	628.8	1 094.8	115.4
1963-64	51.5	70.9	53.8	176.2	544.9	582.1	1 127.1	123.5
1964-65	52.9	70.5	50.6	174.1	424.8	562.1	986.9	134.5
1965-66	47.1	60.7	46.5	154.2	566.7	597.2	1 163.9	146.3
1966-67	52.5	67.2	50.8	170.5	552.2	606.9	1 159.1	148.9
1967-68	57.9	66.0	47.9	171.8	600.1	524.9	1 125.0	143.0
1968-69	68.4	64.2	45.2	177.8	567.5	673.4	1 240.9	139.0
1969-70	78.6	66.5	32.8	177.9	608.3	688.7	1 297.0	160.1
1970-71	78.9	61.1	22.0	162.1	713.2	680.7	1 393.9	170.6
1971-72	96.3	69.2	19.3	184.8	813.0	662.2	1 475.2	165.0
1972-73	124.7	110.2	25.9	260.8	636.5	641.7	1 278.2	152.0
1973-74	126.3	103.6	29.6	259.4	335.6	489.7	825.3	115.6
1974-75	149.3	75.4	37.5	262.1	402.8	577.1	979.9	101.4
1975-76	164.1	119.4	64.5	348.0	454.9	613.6	1 068.5	94.1
1976-77	144.9	139.9	72.9	357.7	469.1	523.5	992.6	99.6
1977-78	161.0	132.8	68.7	362.5	386.8	650.1	1 036.8	92.5
1978-79	123.6	103.2	54.5	281.2	345.4	502.9	848.3	90.5
1979-80	95.6	83.0	39.5	218.1	316.9	613.2	930.1	88.7
1980-81	95.9	86.1	42.2	224.1	403.3	646.9	1 050.2	88.6
1981-82	106.6	91.5	53.8	251.9	452.0	690.7	1 142.7	77.2
1982-83	109.4	106.5	59.6	275.5	563.3	764.4	1 327.7	77.3
1983-84	80.4	73.2	46.4	200.0	418.9	756.9	1 175.9	80.2
1984-85	83.4	63.7	38.2	185.3	427.3	683.9	1 111.3	83.1
1985-86	85.5	57.7	32.2	175.4	466.6	665.7	1 132.3	84.4
1986-87	103.9	68.9	32.2	204.9	509.7	670.6	1 180.3	89.6
1987-88	104.0	75.7	35.6	215.2	630.0	656.0	1 286.1	97.5
1988-89	97.2	63.9	40.5	201.6	412.4	595.0	1 007.5	95.5
1989-90	117.0	74.7	34.9	226.6	532.3	588.8	1 121.1	86.7

(a) Including livestock slaughtered on farms.

(Chapter 13)

Value of Agricultural Commodities Produced, Tasmania
(\$ million)

Year	Crops (a)		Livestock slaughterings and other disposals		Livestock products		Total agriculture	
	Gross	Local	Gross	Local	Gross	Local	Gross	Local
1970-71	40.1	29.2	28.1	25.9	41.9	40.2	110.2	95.3
1971-72	33.7	24.0	31.5	29.0	47.0	45.1	112.2	98.1
1972-73	40.0	28.3	43.6	40.4	64.8	61.7	148.4	130.3
1973-74	46.6	37.0	58.0	54.0	60.0	57.3	164.7	148.2
1974-75	49.4	39.7	31.7	29.1	56.5	53.1	137.6	121.9
1975-76	43.0	35.2	34.1	31.0	60.7	57.0	137.7	123.3
1976-77	55.7	48.7	46.1	42.2	72.1	68.2	173.9	159.1
1977-78	54.0	47.8	54.8	47.9	76.1	72.2	184.8	167.9
1978-79	76.9	68.8	91.7	80.2	86.7	82.7	255.4	231.6
1979-80	70.4	61.7	100.3	87.4	93.7	89.0	264.4	238.0
1980-81	80.3	71.1	94.1	82.4	100.2	95.1	274.6	248.6
1981-82	92.3	81.4	90.2	78.8	117.7	112.7	300.2	272.9
1982-83	r 108.2	r 95.2	100.7	87.9	131.5	126.3	340.4	309.4
1983-84	r 134.4	r 121.7	95.6	83.2	126.9	121.0	r 356.8	r 326.0
1984-85	r 132.3	r 116.6	115.3	106.6	135.1	130.2	r 382.8	r 353.4
1985-86	r 148.1	r 129.9	95.1	88.6	147.3	140.5	r 390.5	r 359.0
1986-87	r 145.6	r 129.5	111.5	104.5	180.4	170.5	r 437.5	r 404.5
1987-88	r 189.4	r 169.2	120.0	112.6	239.1	230.0	r 548.4	511.9
1988-89	233.4	213.0	122.1	114.0	247.6	235.5	603.1	562.8
1989-90	221.9	200.1	144.2	135.1	261.0	248.1	623.7	579.9

(a) Excludes crops and pasture harvested for green feed or silage.

(Chapter 13)

Production of Meat, Tasmania
(Tonnes: Carcass Weight)

Year	Beef and veal			Mutton and lamb			Pigmeat (a)	Total
	Beef	Veal	Total	Mutton	Lamb	Total		
1929-30		8 153	8 153	4 448	1 595	6 043	2 848	17 044
1939-40	10 626	165	10 791	4 845	2 989	7 834	3 560	22 185
1949-50	12 299	169	12 468	4 896	4 173	9 069	2 597	24 134
1959-60	22 610	906	23 516	10 267	10 846	21 113	5 438	50 067
1960-61	16 388	777	17 165	9 513	9 715	19 228	5 138	41 531
1961-62	19 076	910	19 989	10 228	10 326	20 554	5 515	46 058
1962-63	23 076	999	24 075	9 614	10 083	19 697	5 549	49 321
1963-64	24 988	1 337	26 325	11 101	9 300	20 401	6 022	52 748
1964-65	25 741	951	26 692	7 225	9 189	18 414	6 691	51 797
1965-66	22 429	951	23 380	11 697	9 739	21 436	7 136	51 952
1966-67	24 124	967	25 091	11 412	9 825	21 237	7 279	53 607
1967-68	24 509	977	25 486	11 666	8 497	20 163	7 001	52 650
1968-69	27 583	802	28 385	11 701	11 112	22 813	7 137	58 335
1969-70	30 909	599	31 509	12 767	11 282	24 049	8 007	63 564
1970-71	29 481	398	29 879	14 755	11 318	26 073	8 530	64 482
1971-72	34 422	374	34 796	16 314	10 875	27 189	8 266	70 251
1972-73	46 946	525	47 471	12 201	10 327	22 528	7 389	77 388
1973-74	45 669	613	46 282	6 672	8 096	14 768	5 477	66 527
1974-75	47 592	721	48 313	7 984	9 508	17 492	4 872	70 677
1975-76	57 924	1 242	59 166	8 997	9 849	18 846	4 516	82 529
1976-77	55 790	1 613	57 403	8 494	8 189	16 683	4 946	79 032
1977-78	59 779	1 556	61 335	7 035	9 849	16 884	4 785	83 004
1978-79	46 269	1 152	47 421	6 833	7 883	14 716	4 834	66 971
1979-80	36 561	835	37 396	5 656	9 017	14 673	4 862	56 931
1980-81	36 812	924	37 736	7 420	9 976	17 396	4 767	59 899
1981-82	40 561	1 266	41 827	8 492	10 647	19 139	4 262	65 228
1982-83	43 518	1 376	44 894	10 364	11 840	22 204	4 196	71 294
1983-84	31 374	960	32 334	8 177	11 745	19 922	4 315	56 572
1984-85	30 821	880	31 701	8 297	10 701	18 998	4 752	55 451
1985-86	30 843	914	31 757	9 382	10 298	20 680	4 665	78 477
1986-87	37 780	1 379	39 159	9 957	10 423	20 380	5 491	65 030
1987-88	39 479	1 791	41 270	11 645	10 213	21 858	5 974	69 102
1988-89	36 178	2 083	38 261	8 069	9 522	17 590	5 810	61 661
1989-90	45 467	2 093	47 560	10 254	9 576	19 830	5 320	72 710

(Chapter 13)

Weighted Average Prices Paid to Farmers Per Unit of Selected Farm Products, Tasmania
(\$ per tonne)

Year	Cereal for grain			Orchard fruit		Small fruit		Vegetables		Wool, greasy
	Wheat	Barley	Hops	Apples	Pears	Currants	Rasp- berries	Potatoes	Peas	
1929-30	18	15	198	17	23	40	40	13	n.a.	220
1939-40	12	17	331	23	25	70	70	18	n.a.	260
1949-50	50	32	772	64	73	130	130	30	n.a.	1 320
1959-60	51	59	1 389	99	100	220	200	39	28	1 150
1960-61	51	63	1 367	102	126	260	180	89	31	1 060
1961-62	59	64	1 433	104	87	260	220	52	26	1 080
1962-63	54	61	1 433	112	122	240	220	25	60	1 210
1963-64	53	63	1 433	107	111	260	220	64	115	1 480
1964-65	49	61	1 499	113	129	220	220	116	103	1 080
1965-66	51	58	1 565	100	68	200	220	37	96	1 230
1966-67	53	63	1 653	124	119	240	240	54	108	1 120
1967-68	54	66	1 698	110	102	290	310	48	117	960
1968-69	42	57	1 698	107	124	290	330	29	111	1 050
1969-70	53	52	1 698	110	136	310	330	46	99	880
1970-71	48	51	1 698	103	134	330	350	42	119	740
1971-72	54	47	1 874	103	117	330	350	37	115	1 900
1972-73	52	52	1 961	121	174	350	350	57	106	2 290
1973-74	104	77	1 649	121	117	390	410	87	116	1 920
1974-75	104	92	860	149	181	470	530	59	131	1 370
1975-76	97	99	1 395	173	171	500	500	77	147	1 570
1976-77	82	111	1 695	165	195	550	580	83	156	2 100
1977-78	86	121	1 957	202	261	700	740	83	158	2 090
1978-79	109	122	2 202	195	248	720	870	102	158	2 340
1979-80	128	124	2 553	223	284	780	950	104	159	2 700
1980-81	139	150	3 002	220	352	800	1 080	110	177	2 770
1981-82	136	162	3 183	281	331	666	1 173	116	223	2 820
1982-83	139	182	4 355	369	446	549	915	r 119	243	2 717
1983-84	159	171	4 980	401	553	654	r 1 887	r 141	245	2 958
1984-85	162	169	5 157	439	536	574	r 3 254	135	263	3 343
1985-86	159	145	n.p.	596	572	700	r 2 721	143	208	3 420
1986-87	145	150	n.p.	579	663	721	r 4 137	r 151	215	4 128
1987-88	165	157	n.p.	666	652	737	r 5 241	167	251	6 904
1988-89	188	181	n.p.	575	687	898	4 467	198	331	6 931
1989-90	177	206	n.p.	548	685	901	2 537	202	328	5 906

(Chapter 14) Assayed Contents of Metallic Minerals Produced and Coal Production, Tasmania

<i>Year</i>	<i>Cadmium</i>	<i>Copper</i>	<i>Gold</i>	<i>Iron concentrate</i>	<i>Lead</i>	<i>Manganese</i>
	<i>tonnes</i>	<i>tonnes</i>	<i>kg</i>	<i>tonnes</i>	<i>tonnes</i>	<i>tonnes</i>
1953	73	9 045	528	-	10 199	-
1955	50	8 529	525	-	11 448	-
1960	57	11 867	747	-	13 249	175
1961	63	12 947	836	-	12 450	188
1962	73	14 748	999	-	14 991	268
1963	75	17 075	1 133	-	15 222	262
1964	78	15 118	1 069	-	15 594	247
1965	71	15 411	1 023	-	14 466	237
1966	76	17 278	1 135	-	15 828	258
1967	74	17 540	1 167	-	15 375	247
1968	75	16 867	1 135	502 462	15 152	250
1969	77	18 983	1 252	1 388 328	15 145	258
1970	70	23 934	1 335	1 346 065	13 934	209
1971	84	25 525	1 793	1 497 486	16 167	509
1972	138	28 298	2 021	1 623 450	26 806	2 205
1973	178	25 821	1 511	1 678 146	20 236	2 399
1974	126	29 086	1 586	1 514 373	19 017	385
1975	167	26 460	1 668	1 431 041	19 552	265
1976	157	25 342	1 495	1 542 306	18 034	232
1977	199	22 002	1 891	1 413 476	22 800	427
1978	188	23 908	1 912	1 446 024	22 754	341
1979	188	22 591	1 747	1 528 225	22 160	269
1980	119	23 013	1 311	1 472 923	15 511	198
1981	181	22 402	1 950	1 543 938	25 517	249
1982	197	20 906	1 737	1 442 056	30 619	281
1983	207	27 516	2 077	1 533 922	34 777	282
1984	204	25 569	1 922	1 393 118	32 493	290
1985	244	27 037	2 335	1 706 874	37 985	349
1986	231	28 761	2 739	1 394 492	37 754	330
1987	212	27 061	2 277	1 288 135	35 969	179
1988	126	23 258	2 030	1 641 622	46 463	152
1989	110	19 920	1 761	1 563 248	52 438	n.a.
1990	175	23 237	1 676	1 429 776	63 033	n.a.

<i>Year</i>	<i>Silver</i>	<i>Sulphur</i>	<i>Tin</i>	<i>Tungstic oxide (WO₃)</i>	<i>Zinc</i>	<i>Coal production</i>
	<i>kg</i>	<i>tonnes</i>	<i>tonnes</i>	<i>tonnes</i>	<i>tonnes</i>	<i>tonnes</i>
1953	38 599	42 516	801	1 069	30 247	237 370
1955	36 267	38 857	867	1 358	28 396	304 023
1960	43 483	55 636	898	1 115	35 069	302 448
1961	45 162	53 128	893	1 543	40 735	259 934
1962	52 876	37 145	1 075	1 052	48 687	276 713
1963	52 969	42 997	1 021	975	49 267	210 243
1964	55 364	57 004	1 006	1 009	50 960	153 587
1965	52 192	54 840	1 043	1 196	47 053	104 101
1966	57 013	63 804	1 047	1 327	50 651	83 990
1967	55 955	62 470	1 553	1 202	49 641	77 769
1968	54 400	53 926	3 154	1 425	48 919	92 389
1969	54 213	47 449	4 853	1 524	50 898	117 794
1970	53 343	84 502	5 018	1 434	46 922	113 529
1971	63 389	109 046	6 166	1 742	52 749	123 922
1972	99 251	164 884	6 825	1 918	85 580	132 242
1973	76 903	160 971	5 674	1 502	63 792	114 588
1974	80 180	153 767	5 950	1 304	65 311	127 460
1975	76 401	152 884	5 489	1 712	67 476	161 922
1976	71 310	154 008	6 853	2 202	62 004	189 489
1977	84 772	163 486	6 634	2 534	78 405	198 966
1978	86 193	148 966	7 270	2 630	77 388	223 957
1979	76 662	84 422	6 892	2 522	75 279	237 380
1980	57 159	41 227	6 234	2 914	54 273	234 175
1981	78 177	53 683	7 057	2 983	74 413	345 951
1982	84 697	59 575	8 009	1 975	79 493	514 986
1983	94 929	60 409	5 356	1 382	82 285	472 625
1984	93 209	60 295	4 172	1 107	83 403	457 984
1985	110 191	69 733	3 127	1 534	98 778	529 587
1986	100 593	69 708	6 262	1 388	95 267	575 704
1987	112 949	77 667	6 561	1 448	86 142	594 038
1988	126 882	96 151	6 550	1 606	113 965	626 941
1989	117 949	n.a.	7 363	1 730	133 090	578 208
1990	144 214	n.a.	7 185	1 370	164 403	541 672

(Chapter 15)

Fisheries, Tasmania

Year	Boats engaged (a)	Persons engaged (a)	Production (b)							Gross value of production (c)
			Fish				Southern rock lobster	Scallops	Abalone	
			Snoek (barra-couta)	Salmon (d)	Shark	Other				
	no.	no.	'000 kg	'000 kg	'000 kg	'000 kg	'000 kg	'000 kg	'000 kg	\$'000
1951-52	n.a.	n.a.	1 580	50	392	319	852	738	-	882
1955-56	n.a.	n.a.	576	116	291	170	1 108	2 625	-	1 012
1959-60	469	968	711	147	413	167	1 329	2 043	-	1 612
1960-61	478	1 072	373	545	439	166	1 436	2 402	-	1 920
1961-62	514	1 122	935	1 325	451	128	1 554	2 164	-	2 294
1962-63	511	1 208	512	528	377	155	1 501	2 663	-	2 254
1963-64	507	1 191	639	385	370	160	1 620	1 932	49	2 203
1964-65	503	957	915	227	299	209	1 513	1 323	225	2 686
1965-66	596	1 154	1 362	196	493	212	1 787	394	726	3 300
1966-67	618	1 200	1 037	427	455	270	1 946	341	1 999	3 653
1967-68	585	1 118	1 624	343	685	300	1 752	225	2 786	4 473
1968-69	566	1 160	1 401	174	947	248	1 700	125	2 108	4 864
1969-70	553	1 123	1 578	67	801	219	1 390	50	2 608	4 043
1970-71	529	1 090	610	201	793	335	1 607	-	3 488	5 984
1971-72	588	1 207	581	507	859	433	1 469	52	2 971	6 808
1972-73	589	1 235	915	461	497	392	1 583	515	2 172	5 739
1973-74	594	1 268	598	371	1 187	7 728	1 514	1 158	2 060	7 014
1974-75	616	1 343	760	631	651	828	1 525	1 261	2 108	6 928
1975-76	607	1 347	143	473	1 238	375	1 229	690	2 429	8 511
1976-77	640	1 439	37	573	1 130	413	1 117	498	2 368	11 662
1977-78	655	1 466	194	611	1 710	590	1 192	400	2 525	12 609
1978-79	727	1 620	38	451	1 490	626	1 305	1 077	3 100	14 636
1979-80	760	1 687	7	283	1 210	688	1 340	3 829	1 314	20 463
1980-81	781	1 678	2	200	1 288	1 037	1 553	3 359	3 743	26 514
1981-82	n.a.	n.a.	1	417	1 086	994	1 713	7 577	4 194	32 896
1982-83	n.a.	n.a.	2	211	793	841	1 887	11 573	2 968	31 140
1983-84	n.a.	n.a.	16	137	614	623	1 805	8 702	4 769	39 133
1984-85	n.a.	n.a.	4	443	1 121	(e) 6 934	1 916	2 301	4 215	47 036
1985-86	n.a.	n.a.	75	885	680	(e) 23 575	1 456	3 022	3 558	59 292
1986-87	n.a.	n.a.	25	535	579	(f) 44 553	1 582	5 020	3 245	91 004
1987-88	n.a.	n.a.	90	946	3022	43904	1803	78	3214	111 076
1988-89	n.a.	n.a.	263	1020	1314	20108	1850	-	2421	117 088

(a) Year ended December of the first year named. (b) Landed at Tasmanian ports, estimated live weight. (c) Includes crabs, squid, oysters and seaweed. (d) Australian salmon. (e) Increase due to large catches of jack mackerel. (f) Increase due to inclusion of Atlantic salmon.

(Chapter 16)

Hydro-Electric Commission, Tasmania (a)

Year	Installed generator capacity (a)	Number of retail consumers	Gross revenue	Operating expenses and other charges
	MW	no.	\$'000	\$'000
1929-30	49	n.a.	692	636
1934-35	54	n.a.	814	754
1939-40	105	n.a.	1 212	1 172
1944-45	161	55 073	1 776	1 588
1949-50	185	75 927	2 938	2 926
1959-60	541	117 266	14 570	14 932
1969-70	1 032	146 958	37 296	35 095
1970-71	1 281	149 911	40 151	40 070
1971-72	1 309	152 934	46 286	46 278
1972-73	1 352	156 570	49 511	49 297
1973-74	1 342	160 307	52 730	54 026
1974-75	1 442	163 479	62 295	61 870
1975-76	1 462	167 507	72 699	72 312
1976-77	1 492	171 847	80 372	80 292
1977-78	1 636	176 005	95 519	95 269
1978-79	1 780	179 861	109 130	108 930
1979-80	1 780	183 607	120 505	119 993
1980-81	1 780	187 072	139 107	136 712
1981-82	1 860	189 723	165 236	159 270
1982-83	1 860	192 034	181 741	185 811
1983-84	1 940	195 370	215 628	218 674
1984-85	1 940	199 180	238 160	233 685
1985-86	2 056	203 472	256 174	246 195
1986-87	2 171	207 481	292 377	296 687
1987-88	2 315	211 527	322 885	328 398
1988-89	2 315	215 744	345 556	335 222
1989-90	2 315	219 169	401 551	400 083
1990-91	2 315	224 283	428 639	443 826

(a) Excludes King and Flinders Islands.

(Chapter 17)

Principal Articles Produced in Factories, Tasmania

Year	Foodstuffs					Refined zinc
	Whole milk (a)	Butter (a) (b)	Cheese (a) (c)	Bacon and ham (cured weight) (d)	Aerated waters	
	million litres	tonnes	tonnes	tonnes	'000 litres	tonnes
1939-40	n.a.	5 380	1 470	1 313	1 650	74 012
1949-50	182.9	5 614	428	1 007	4 510	85 122
1959-60	319.3	12 079	372	1 162	8 356	119 785
1960-61	290.3	10 552	399	1 138	8 656	127 957
1961-62	332.8	12 376	641	1 149	8 828	131 140
1962-63	356.9	13 405	681	1 201	9 683	138 391
1963-64	377.9	13 984	1 358	1 185	9 938	140 835
1964-65	397.1	14 218	2 388	1 190	10 310	141 006
1965-66	399.6	14 229	2 989	1 079	11 111	146 221
1966-67	415.6	14 541	3 822	1 262	11 583	146 227
1967-68	412.8	13 999	4 724	1 302	12 029	131 872
1968-69	464.4	16 017	5 820	1 416	12 644	151 094
1969-70	469.2	16 343	5 407	1 403	13 354	170 931
1970-71	449.8	15 273	5 556	1 803	14 049	162 271
1971-72	458.7	15 318	5 923	1 984	14 402	175 798
1972-73	423.8	12 947	7 218	1 902	15 236	193 782
1973-74	421.8	12 398	8 475	1 931	15 751	182 749
1974-75	438.3	12 196	12 387	2 169	14 845	152 749
1975-76	415.5	10 762	13 332	2 356	16 219	137 637
1976-77	405.0	9 707	13 156	2 434	18 786	170 685
1977-78	366.4	7 910	13 903	2 505	20 082	161 173
1978-79	364.9	7 075	17 494	2 457	19 834	204 623
1979-80	315.6	5 490	15 328	2 094	18 361	191 683
1980-81	288.0	4 234	14 147	2 375	19 397	188 471
1981-82	295.2	3 964	15 167	2 634	19 108	193 714
1982-83	322.7	5 768	14 100	2 661	n.p.	185 482
1983-84	339.2	6 191	14 080	2 519	16 623	187 399
1984-85	346.7	7 690	12 567	2 963	16 755	196 576
1985-86	351.1	6 180	16 695	3 258	17 537	195 916
1986-87	352.3	5 839	17 183	3 164	18 189	189 345
1987-88	306.0	3 885	16 255	3 066	21 136	186 563
1988-89	334.1	4 276	18 671	2 876	22 076	199 142
1989-90	345.0	5 051	18 172	n.a.	22 233	178 093
1990-91	363.0	5 382	19 523	n.a.	20 147	205 452

Principal Articles Produced in Factories, Tasmania - continued

Year	Chemicals, fertilisers, etc.			Sawn, peeled and sliced timber (e)	Miscellaneous	
	Sulphuric acid	Super-phosphate	Sulphate of ammonia		Newsprint	Electricity
	tonnes	tonnes	tonnes	'000 m ²	tonnes	GWh
1939-40	14 552	33 337	-	189.7	-	612
1949-50	42 747	69 943	-	298.2	30 961	1 062
1959-60	129 077	104 260	58 525	400.4	89 931	2 532
1969-70	266 449	133 245	40 563	413.7	173 314	5 140
1970-71	387 193	105 323	40 252	406.1	178 683	5 451
1971-72	558 658	104 763	41 358	412.8	181 477	5 778
1972-73	652 513	177 192	48 654	416.3	199 053	5 902
1973-74	570 156	180 458	33 191	414.3	200 852	6 010
1974-75	517 052	103 253	54 701	410.2	196 240	6 095
1975-76	466 817	57 896	23 040	373.5	206 228	6 008
1976-77	506 338	101 281	12 291	368.1	206 590	6 842
1977-78	522 154	97 012	5 292	338.5	207 621	7 179
1978-79	414 644	151 489	6 045	320.6	208 143	7 748
1979-80	302 550	132 783	1 213	355.2	221 460	7 903
1980-81	253 547	139 869	969	373.9	214 400	8 044
1981-82	335 507	126 416	-	327.2	219 429	8 122
1982-83	292 323	104 324	913	248.1	222 934	7 978
1983-84	318 492	108 216	2 643	290.1	209 412	8 144
1984-85	351 153	127 047	2 065	314.5	199 245	8 279
1985-86	363 273	98 435	2 125	311.6	189 634	8 413
1986-87	333 695	98 110	-	324.9	203 072	8 416
1987-88	309 744	105 534	-	327.7	213 670	8 865
1988-89	275 574	102 837	-	343.8	215 336	8 993
1989-90	309 774	103 454	-	337.1	201 634	9 097
1990-91	318 666	72 437	-	287.1	201 892	9 110

(a) Source: Tasmanian Department of Agriculture up to 1978-79; Australian Dairy Corporation from 1979-80. (b) Includes butter equivalent of butter oil and from 1965-66 excludes farm production. (c) Excludes farm production from 1965-66. (d) Includes non-factory production. From July 1970 all weights are on a bone-in basis; earlier figures include an element of unconverted bone-out weights. (e) Includes hardwood and softwood.

(NOTE: Details of production of a number of important articles cannot be published because of confidentiality.)

(Chapter 17)

Manufacturing, 1910 to 1967-1968, Tasmania

Year	Factories at end of year	Employment (a)			Salaries and wages paid (b)	Value of materials used	Value of output (c)	Value of production (d)	Land and buildings	Plant and machinery
		Males	Females	Persons						
	no.	no.	no.	no.	\$m	\$m	\$m	\$m	\$m	\$m
1910	635	8 277	1 703	9 980	n.a.	n.a.	n.a.	n.a.	2.0	2.1
1915	589	7 161	1 259	8 420	1.6	4.4	8.4	3.8	2.3	2.5
1920	616	8 746	1 479	10 225	3.0	8.5	14.3	5.5	2.0	3.9
1924-25	675	9 016	1 982	10 998	3.8	6.9	15.7	7.3	4.2	13.5
1929-30	845	8 547	2 273	10 820	4.1	8.0	17.1	7.1	6.0	13.9
1934-35	926	8 321	2 234	10 555	3.2	6.3	14.4	6.3	5.4	12.1
1939-40	980	11 754	2 916	14 670	5.4	10.8	26.0	12.5	7.6	13.6
1940-41	1 002	12 341	3 498	15 839	6.1	12.4	27.7	12.6	8.5	15.1
1945-46	1 082	15 105	4 130	19 235	10.0	20.6	44.2	18.4	10.6	16.5
1946-47	1 169	16 186	3 751	19 937	11.3	22.7	49.1	21.3	11.4	17.0
1947-48	1 225	17 208	3 965	21 173	13.7	27.3	57.6	24.5	12.5	19.8
1948-49	1 346	18 508	4 094	22 602	16.9	34.3	73.3	32.1	14.7	24.5
1949-50	1 456	19 302	4 204	23 506	19.3	43.5	90.2	38.7	17.3	27.5
1950-51	1 486	19 454	4 373	23 827	23.5	58.3	117.2	49.2	20.7	34.3
1951-52	1 512	19 934	4 093	24 027	29.4	71.8	143.9	59.6	25.0	41.2
1952-53	1 504	19 621	3 874	23 495	32.0	67.3	142.0	61.0	29.9	45.2
1953-54	1 545	20 249	4 340	24 589	34.8	74.9	155.8	66.1	54.0	55.0
1954-55	1 597	21 045	4 407	25 452	37.7	84.9	177.2	76.2	59.2	59.8
1955-56	1 594	22 128	4 934	27 062	43.2	95.9	207.6	91.9	93.2	80.8
1956-57	1 595	22 482	5 188	27 670	47.3	101.3	220.8	97.4	112.9	89.7
1957-58	1 655	23 081	5 003	28 084	50.6	100.6	227.7	103.7	118.9	93.7
1958-59	1 666	23 504	4 920	28 424	51.7	103.1	236.6	108.6	123.7	96.5
1959-60	1 683	24 408	5 254	29 662	57.6	119.8	268.1	120.4	144.0	107.3
1960-61	1 766	24 811	5 347	30 158	60.7	122.5	275.9	124.9	147.1	112.6
1961-62	1 760	24 742	5 328	30 070	61.4	126.1	283.5	127.9	159.1	121.6
1962-63	1 764	25 453	5 302	30 755	64.8	131.1	303.9	142.0	163.9	138.2
1963-64	1 746	26 221	5 612	31 833	70.6	154.6	341.1	152.6	168.4	141.7
1964-65	1 805	26 768	5 812	32 580	76.5	175.9	381.5	167.3	209.0	155.3
1965-66	1 792	28 041	6 274	34 315	83.0	188.7	404.6	175.6	211.9	158.7
1966-67	1 771	28 364	6 515	34 879	90.8	201.0	438.0	194.6	234.0	169.2
1967-68	1 797	28 550	6 628	35 178	96.2	203.1	445.1	198.0	263.4	184.7

(a) Commencing with 1927-28, the number of persons employed is the average over the whole year; prior to the date the number represents the average over the period of operation. (b) Excludes amounts drawn by working proprietors. (c) Value of goods manufactured and work done. (d) Value of output less recorded costs of manufacture other than labour.

(Chapter 17)

Manufacturing, Tasmania (a)

Year (b)	Establish- ments operating at 30 June	Employment at 30 June (c)			Wages and salaries (d)	Turnover (e)	Purchases, transfer in and selected expenses (f)	Value added (g)	Fixed capital expenditure (h)
		Males	Females	Persons					
	no.	no.	no.	no.	\$m	\$m	\$m	\$m	\$m
1968-69	951	25 346	6 743	32 089	95.1	487.1	301.7	197.5	35.1
1969-70	945	25 523	6 891	32 414	102.1	541.6	317.5	226.1	49.4
1971-72	933	24 891	6 253	31 144	119.4	595.6	359.3	245.1	25.9
1972-73	912	25 077	6 427	31 504	130.7	678.8	394.6	283.4	24.9
1973-74	935	25 708	6 651	32 359	161.4	818.0	494.8	340.3	24.8
1974-75	628	23 430	5 278	28 708	194.9	905.7	558.6	402.3	53.1
1975-76	667	23 243	5 135	28 378	211.3	1 029.6	577.4	456.0	43.9
1976-77	617	23 335	4 973	28 308	246.0	1 199.3	694.4	533.3	34.5
1977-78	599	21 907	5 130	27 037	258.3	1 246.0	742.2	498.0	47.2
1978-79	552	21 397	4 932	26 329	266.1	1 401.5	861.7	549.4	77.1
1979-80	543	21 572	4 857	26 429	298.2	1 656.1	1 045.9	653.8	55.9
1980-81	558	21 783	4 665	26 448	346.6	1 867.1	1 175.5	713.4	60.2
1981-82	555	20 626	4 630	25 256	370.2	1 898.0	1 237.5	713.1	84.4
1982-83	528	19 302	4 551	23 853	387.7	1 968.5	1 267.4	695.1	45.0
1983-84	558	19 695	4 556	24 251	414.3	2 220.5	1 388.7	837.7	61.2
1984-85	575	19 934	4 639	24 573	443.0	2 422.9	1 548.9	937.9	52.3
1986-87	633	19 496	4 875	24 371	526.4	3 050.2	1 838.9	1 236.5	n.a.
1987-88	686	19 832	4 996	24 828	562.6	3 242.6	n.a.	n.a.	n.a.
1988-89	676	21 319	5 614	26 933	648.2	3 834.7	n.a.	n.a.	n.a.

(a) Details are not comparable with those contained in the table: 'Manufacturing, 1910-1967-68, Tasmania'. (b) No census was conducted in 1970-71 and 1985-86. From 1974-75 figures exclude details for single establishment enterprises with less than four persons employed. (c) Includes working proprietors and employees at separately located administrative and ancillary units. (d) Excludes drawings by working proprietors and partners. (e) Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. (f) Includes transfers in of goods from other establishments of the enterprise, charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses and sales commission payments. (g) Comprises sales of goods, transfers out of goods to establishments of the same enterprise, bounties and subsidies on production, all other operating revenue from outside the enterprise and capital work done for own use, rental or lease. (h) Outlay on fixed tangible assets less disposals.

(Chapter 18)

Building Approvals, Tasmania

Year	New houses		Other new dwellings		Total new dwellings		Alterations and additions to dwellings	Other building	Total all building
	No.	Value	No.	Value	No.	Value	Value (a)	Value	Value
		\$'000		\$'000		\$'000	\$'000	\$'000	\$'000
1959-60	2 546	16 134	187	926	2 733	17 060	n.a.	22 099	39 159
1960-61	2 273	15 190	152	895	2 425	16 085	n.a.	14 454	30 539
1961-62	2 527	16 486	119	467	2 646	16 953	n.a.	20 851	37 804
1962-63	2 471	16 542	173	814	2 644	17 356	n.a.	20 060	37 416
1963-64	2 648	18 845	165	886	2 813	19 731	n.a.	14 790	34 521
1964-65	2 669	20 209	252	1 413	2 921	21 622	n.a.	23 250	44 872
1965-66	2 428	19 083	218	1 355	2 646	20 438	n.a.	28 432	48 870
1966-67	3 218	25 777	227	1 476	3 445	27 253	n.a.	26 340	53 593
1967-68	3 309	30 083	425	2 522	3 734	32 605	n.a.	39 414	72 019
1968-69	2 694	25 893	438	2 904	3 132	28 797	n.a.	23 494	52 291
1969-70	2 656	26 631	781	5 545	3 437	32 176	n.a.	27 358	59 534
1970-71	2 581	26 618	610	4 036	3 191	30 654	n.a.	37 337	67 991
1971-72	2 484	28 430	909	6 773	3 393	35 203	n.a.	34 879	70 083
1972-73	3 058	39 454	768	6 393	3 826	45 847	n.a.	44 574	90 421
1973-74	3 282	51 798	893	8 771	4 175	60 569	797	39 353	100 719
1974-75	2 627	51 460	732	9 678	3 359	61 138	1 163	50 433	112 736
1975-76	3 380	82 908	1 056	18 715	4 436	101 623	2 326	56 441	160 390
1976-77	3 314	89 367	1 088	21 159	4 402	110 526	3 877	86 160	200 562
1977-78	2 778	78 138	911	17 959	3 689	96 097	4 817	86 816	187 729
1978-79	2 834	83 429	810	17 779	3 644	101 208	5 089	77 119	183 416
1979-80	2 511	81 479	804	17 165	3 315	98 644	5 828	91 442	195 912
1980-81	2 327	81 713	873	19 992	3 200	101 705	6 950	73 190	181 845
1981-82	1 989	72 285	741	18 051	2 730	90 336	7 786	90 371	188 493
1982-83	2 057	76 438	670	17 111	2 727	93 549	7 653	62 242	163 444
1983-84	2 918	117 045	769	22 215	3 687	139 260	10 268	80 150	229 678
1984-85	3 415	155 001	955	31 252	4 370	186 253	13 191	141 816	341 260
1985-86	3 020	152 728	1 088	42 025	4 108	194 753	16 337	149 411	360 500
1986-87	2 647	144 937	991	38 085	3 638	183 022	19 513	179 215	381 750
1987-88	2 672	157 965	826	34 816	3 498	192 782	23 537	172 380	388 699
1988-89(b)(c)	2 890	189 436	1 024	46 410	3 914	235 846	27 892	197 920	461 657
1989-90	2 663	192 287	856	45 098	3 519	237 385	30 264	130 379	398 028
1990-91	2 555	192 760	928	49 516	3 483	242 276	28 565	135 837	406 678

(a) From July 1990, all approved alterations and additions to residential buildings valued at \$10 000 or more, are included. (b) From July 1990, all approved new residential building jobs valued at \$10 000 or more are included (previously \$5000 or more). (c) From July 1990, all approved non-residential building jobs valued at \$50 000 or more are included (previously \$30 000 or more).

(Chapter 18)

Summary of Dwellings at Census Dates, Tasmania

Particulars	Date of Census									
	April 1921	June 1933	June 1947	June 1954	June 1961	June 1966	June 1971	June 1976	June 1981	June 1986
Dwellings (including hotels, boarding houses, flats, etc.)										
Occupied	no. 45 818	52 484	62 484	78 789	91 528	99 366	110 483	122 573	136 269	150 142
Unoccupied	no. 2 934	2 421	2 531	5 288	8 582	10 800	13 302	15 786	17 765	19 470
Total	no. 48 752	54 905	64 835	84 077	99 840	110 166	123 785	138 359	154 034	169 612
Average inmates per occupied dwelling	no. 4.67	4.34	4.11	3.92	3.84	3.74	3.53	3.29	3.07	2.91
Occupied private dwellings according to class of dwelling -										
Private house (including share)(a)	no. 42 028	48 479	58 937	74 244	83 736	90 131	99 401	100 534	119 573	130 328
Flat (including apartment)	no. 2 404	2 831	2 604	2 534	5 574	7 058	8 417	21 298	16 025	19 130
Other	no. 44 432	51 310	61 462	77 647	90 198	98 282	109 603	121 832	135 598	149 458
Total	no. 16 851	20 404	28 377	38 436	42 896	67 855	73 267	38 852	44 740	58 157
Nature of occupancy -										
Owner	no. 4 364	3 986	4 140	9 810	19 006	25 597	30 583	44 432	44 977	47 588
Purchase by instalments	no. 19 037	22 734	26 077	26 991	25 938	25 597	30 583	29 638	33 909	36 748
Tenant	no. 4 180	4 186	2 868	2 410	2 358	5 000	5 753	8 910	11 972	6 307
Other methods of occupancy (including not stated)										

(a) Separate house for 1976.

(Chapter 18) Value of Building: Commenced, Completed and Under Construction, Tasmania
(\$'000)

Year	Building approvals	Building construction								
		Commenced			Completed			Under construction at 30 June		
		New dwellings	Other building	Total all building	New dwellings	Other building	Total all building	New dwellings	Other building	Total all building
1946-47	6 726	3 728	1 708	5 436	2 308	526	2 834	3 614	1 904	5 518
1947-48	8 358	5 256	1 958	7 214	3 492	1 066	4 558	5 532	2 760	8 292
1948-49	11 742	7 960	2 782	10 742	6 042	1 578	7 620	7 670	4 074	11 744
1949-50	16 740	11 702	5 056	16 758	8 426	2 258	10 684	11 368	6 612	17 980
1950-51	21 694	15 000	5 672	20 672	13 508	3 298	16 806	14 250	10 106	24 356
1951-52	20 042	15 360	6 766	22 126	16 414	4 608	21 022	14 504	13 036	27 540
1952-53	15 984	10 664	2 558	13 222	15 252	6 078	21 330	10 608	10 380	20 988
1953-54	21 646	13 552	4 896	18 448	13 520	5 864	19 384	11 532	12 032	23 564
1954-55	25 612	15 244	6 428	21 672	13 092	8 206	21 298	13 992	10 806	24 798
1955-56	25 074	13 842	5 936	19 778	15 138	10 458	25 596	13 230	6 498	19 728
1956-57	30 964	15 138	13 138	28 276	16 434	8 784	25 218	12 420	11 750	24 170
1957-58	27 232	14 980	10 486	25 466	15 844	9 836	25 680	11 866	12 026	23 892
1958-59	27 592	16 662	12 156	28 818	15 986	10 914	26 900	12 742	13 364	26 106
1959-60	39 159	15 834	20 652	36 486	16 570	15 036	31 606	12 026	19 156	31 182
1960-61	30 539	15 936	12 344	28 280	17 206	16 822	34 028	10 912	15 016	25 928
1961-62	37 804	17 026	18 360	35 386	16 630	16 824	33 454	11 136	16 640	27 776
1962-63	37 416	16 668	17 944	34 612	16 892	17 240	34 128	10 912	17 500	28 412
1963-64	34 521	18 944	15 720	34 664	18 070	15 906	33 976	11 764	17 330	29 094
1964-65	44 872	20 922	21 118	42 040	20 060	17 684	37 744	12 628	20 738	33 366
1965-66	48 870	19 200	24 589	43 789	19 010	20 670	39 680	12 761	24 651	37 412
1966-67	53 593	25 869	36 208	62 070	23 230	24 986	48 218	15 394	35 875	51 269
1967-68	72 021	29 791	33 359	63 153	30 078	31 805	61 881	15 095	37 411	52 504
1968-69	52 291	28 011	28 191	56 202	28 142	28 807	56 947	14 634	37 262	51 896
1969-70	59 534	32 326	29 805	62 131	32 170	34 282	66 452	14 675	36 347	51 022
1970-71	67 991	32 233	37 956	70 189	29 275	30 409	59 684	17 906	45 559	63 465
1971-72	70 083	32 219	32 100	64 319	31 699	38 018	69 717	19 262	42 374	61 636
1972-73	90 421	43 328	47 279	90 607	36 190	41 915	78 105	27 418	49 104	76 522
1973-74 (a)	100 719	57 579	49 546	107 125	48 259	40 687	88 946	38 416	58 947	97 363
1974-75	112 736	59 641	53 539	113 180	58 182	41 311	99 493	42 436	73 883	116 319
1975-76	160 390	94 481	62 360	156 840	77 130	67 979	145 109	65 067	75 427	140 494
1976-77	200 562	100 636	77 938	178 574	102 888	71 674	174 563	67 915	85 758	153 674
1977-78	187 729	95 941	96 314	192 255	105 701	87 319	193 019	61 583	99 732	161 316
1978-79	183 416	105 265	106 141	211 406	99 460	74 968	174 427	73 161	133 694	206 854
1979-80	195 912	95 771	82 821	178 591	106 452	111 180	217 633	62 278	117 250	179 529
1980-81	181 845	109 700	99 727	209 400	111 600	122 800	234 400	56 800	109 900	166 700
1981-82	188 493	88 800	92 800	181 600	93 500	98 000	191 500	48 500	106 100	154 600
1982-83	163 444	80 900	78 500	159 500	79 000	111 100	190 100	49 500	71 300	120 800
1983-84	229 678	122 000	80 000	202 000	107 300	105 500	212 800	63 600	46 400	110 000
1984-85	341 260	171 700	130 200	301 900	150 300	85 000	235 300	85 600	96 600	182 200
1985-86	360 500	182 600	196 900	379 600	166 000	118 200	284 200	103 000	178 400	281 400
1986-87	381 750	170 600	198 800	369 400	166 300	174 100	340 400	111 700	205 600	317 300
1987-88	388 699	180 500	193 700	374 200	174 200	225 300	399 500	118 500	181 300	299 800
1988-89 (b)(c)	461 657	222 500	257 400	479 900	182 100	217 600	399 700	164 300	232 300	396 600
1989-90	397 950	224 400	176 900	401 300	229 600	231 900	461 500	164 000	198 700	362 700

- (a) Alterations and additions to dwellings valued at \$10 000 and over are included with the value of dwellings up to 1972-73 but excluded thereafter: from 1973-74 the value of alterations and additions to dwellings valued at \$10 000 and over is included with 'other building'.
- (b) All approved new residential building jobs are included up to 1987-88; from 1988-89 only approved new residential building jobs valued at \$5000 or more are included. For building construction, new residential building jobs have a minimum value of \$10 000.
- (c) All approved non-residential building jobs valued at \$10 000 or more are included up to 1987-88; from 1988-89 only approved non-residential building jobs valued at \$30 000 or more are included.

(Chapter 19)

Postal Services, Tasmania

Year	Letters and postcards	Mail posted in Tasmania or received from overseas		Security services (registered articles)
		Newspapers and packets	Parcels	
	'000	'000	'000	'000
1929-30	39 956	7 128	198	307
1939-40	33 874	5 525	132	314
1949-50	50 038	8 440	368	674
1959-60	43 020	9 629	233	456
1969-70	58 824	8 953	300	312
1970-71	57 916	8 640	353	313
1971-72	54 780	6 773	352	268
1972-73	63 187		358	228
1973-74	63 272		289	203
1974-75	59 644		308	193
1975-76	44 829	5 528	220	132
1976-77	45 406	5 627	310	126
1977-78	48 690	7 569	342	124
1978-79	51 828	12 252	379	121
1979-80	53 902	10 962	444	119
1980-81	57 204	6 628	544	127
1981-82	51 503	5 773	543	125
1982-83	49 603	5 986	548	116
1983-84	50 669	6 459	550	108
1984-85	53 684	6 736	629	110
1985-86	53 995	6 511	568	113
1986-87	55 128	7 172	535	93

(Chapter 19) Telecommunications, Radiocommunications, Broadcasting and Television, Tasmania

Year	Telegrams		Telephones			Radiocommunication, broadcasting and television stations		
	Despatched to and received from other countries	Despatched to places within Australia	Telephone exchanges	Telephone services connected at end of period		Radio communica- tion	Broadcasting	Television
				Lines	Instruments			
	'000	'000	no.	'000	'000	no.	no.	no.
1929-30	19	455	360	12	15	20	3	..
1939-40	16	471	357	15	19	25	11	..
1949-50	36	952	370	23	31	198	11	..
1959-60	43	537	391	47	63	882	12	2
1964-65	52	550	365	59	82	2 574	12	4
1965-66	60	582	349	62	86	2 951	12	4
1966-67	53	621	331	65	89	3 561	12	4
1967-68 (a)	21	575	312	67	93	3 856	12	4
1968-69	24	562	288	70	98	4 377	12	4
1969-70	24	542	273	75	105	4 994	12	4
1970-71	36	499	257	78	114	5 499	12	4
1971-72	36	458	238	80	113	5 892	12	5
1972-73	473		230	85	118	6 390	12	5
1973-74	472		224	90	127	6 570	12	5
1974-75	424		212	96	133	7 347	12	5
1975-76	356		206	100	140	7 915	12	5
1976-77	298		198	105	146	8 687	15	5
1977-78	242		197	112	155	(b) 15 612	15	5
1978-79	178		196	118	164	15 008	15	5
1979-80	135		196	125	174	15 383	16	5
1980-81	122		197	133	202	13 746	18	5
1981-82	107		197	139	192	13 413	18	5
1982-83	91		197	145	212	21 204	18	5
1983-84	74		197	151	231	21 609	19	5
1984-85	62		197	162	247	23 262	19	5
1985-86	56		197	169	n.a.	21 906	20	6
1986-87	44		200	177	n.a.	25 181	21	6
1987-88	-		201	182	n.a.	26 388	23	5
1988-89	-		203	190	n.a.	28 455	25	5

(a) From 1967-68 excludes telegrams received, details of which are no longer available. (b) Includes licensed Citizens Band Radio Service operators from 1977-78. (c) Telegrams were replaced by services such as lettergrams and Faxpool during the 1987-88 financial year

(Chapter 19)

Motor Vehicle Registrations, Tasmania (a)

Year	Motor vehicles on the register at end of year					New motor vehicles registered during year			
	Motor cars and station wagons		Commercial vehicles ('000)	Motor cycles ('000)	Total ('000)	Motor cars and station wagons	Commercial vehicles	Motor cycles	Total
	Number ('000)	Persons per vehicle registered							
1924-25	5.8	36.9	(b) 0.8	2.7	9.3	n.a.	n.a.	n.a.	n.a.
1925-26	7.1	30.4	1.0	3.0	11.1				
1926-27	8.4	25.1	1.2	3.5	13.1				
1927-28	9.7	22.0	1.6	3.9	15.2				
1928-29	11.4	19.0	1.9	4.4	17.6				
1929-30	12.5	17.6	(c) 2.2	4.8	19.5	1 627	(c) 552	939	3 118
1930-31	12.0	18.3	2.2	4.3	18.5	n.a.	n.a.	n.a.	n.a.
1931-32	11.3	20.0	2.2	3.7	17.2				
1932-33	11.6	19.6	2.5	3.7	17.8				
1933-34	12.0	19.0	2.7	3.8	18.5				
1934-35	12.9	17.8	3.0	3.9	19.8	982	422	171	1 575
1935-36	14.0	16.4	3.6	3.9	21.6	n.a.	n.a.	n.a.	n.a.
1936-37	15.1	15.4	4.0	3.6	22.7	1 572	620	281	2 473
1937-38	16.6	14.1	4.5	3.6	24.8	1 802	707	287	2 796
1938-39	17.7	13.4	5.0	3.7	26.4	2 010	700	350	3 060
1939-40	17.6	13.6	5.2	3.4	26.2	1 400	540	176	2 116
1940-41	17.3	13.9	5.5	3.2	26.1	553	359	90	1 002
1941-42	14.2	17.0	5.4	2.2	21.9	127	156	13	296
1942-43	15.8	15.4	5.6	2.5	23.9	69	91	3	163
1943-44	16.7	14.7	6.3	2.6	25.6	29	523	...	552
1944-45	17.1	14.5	7.0	2.8	26.8	26	331	1	358
1945-46	17.4	14.5	7.8	3.2	28.4	43	351	73	467
1946-47	18.5	13.9	9.0	3.6	31.2	741	667	472	1 880
1947-48	19.9	13.1	10.2	4.1	34.2	1 541	1 084	621	3 246
1948-49	22.5	11.9	11.7	4.7	38.9	2 611	1 202	812	4 625
1949-50	25.3	10.9	12.9	4.9	43.2	3 311	1 565	886	5 762
1950-51	28.8	9.9	15.1	5.3	49.2	4 187	2 319	960	7 466
1951-52	32.5	9.1	16.8	5.7	55.1	4 267	2 073	938	7 278
1952-53	35.4	8.6	19.4	5.7	60.5	3 368	1 724	474	5 566
1953-54	40.0	7.7	19.7	5.6	65.4	4 718	1 896	450	7 064
1954-55	44.9	7.0	21.5	5.3	71.7	5 738	2 285	417	8 440
1955-56	48.0	6.6	21.9	4.8	74.7	5 457	2 179	332	7 968
1956-57	51.7	6.3	22.6	4.4	78.6	5 309	1 988	340	7 637
1957-58	55.9	6.0	23.9	4.0	83.8	5 337	1 944	225	7 506
1958-59	59.1	5.7	25.0	3.6	87.7	5 362	2 113	176	7 651
1959-60	63.7	5.4	26.4	3.1	93.2	6 527	2 115	96	8 738
1960-61	68.1	5.1	26.7	2.6	97.4	6 723	2 058	61	8 842
1961-62	72.8	4.9	27.4	2.4	102.6	6 931	1 778	59	8 768
1962-63	77.9	4.6	27.5	1.9	107.3	9 003	1 986	52	11 041
1963-64	84.4	4.3	28.0	1.7	114.1	10 268	2 343	53	12 664
1964-65	91.3	4.0	28.9	1.5	121.7	10 522	2 389	69	12 980
1965-66	96.8	3.8	29.7	1.5	128.0	10 133	2 878	207	13 218
1966-67	101.7	3.7	30.2	1.6	133.5	10 390	2 611	380	13 381
1967-68	107.7	3.5	31.1	2.2	141.0	11 738	2 412	751	14 901
1968-69	113.7	3.4	32.2	2.8	148.7	10 845	2 529	781	14 155
1969-70	118.6	3.3	32.6	3.1	154.3	11 399	2 456	799	14 654
1970-71	124.9	3.1	32.9	3.5	161.3	11 792	2 550	794	15 136
1971-72	130.2	3.0	33.8	3.8	167.8	11 961	2 492	978	15 431
1972-73	135.4	2.9	34.6	4.5	174.5	12 970	2 813	1 343	17 126
1973-74	141.2	2.8	35.3	6.1	182.6	13 674	2 846	2 600	19 120
1974-75	150.3	2.7	36.6	7.4	194.3	16 097	3 980	2 749	22 826
1975-76	156.9	2.6	39.1	6.8	202.8	14 410	3 971	1 831	20 212
1976-77	162.7	2.5	40.5	6.2	209.4	14 520	4 260	1 428	20 208
1977-78	171.9	2.4	41.2	5.0	218.1	13 884	4 170	972	19 026
1978-79	178.8	2.4	42.9	4.8	226.6	13 928	3 401	892	18 221
1979-80	177.2	2.4	47.5	4.7	229.5	13 333	3 454	1 089	17 876
1980-81	183.5	2.3	49.0	4.9	237.4	13 563	3 444	1 278	18 285
1981-82	186.5	2.3	50.5	5.1	242.1	12 210	3 302	1 110	16 622
1982-83	191.0	2.3	52.5	5.8	249.3	11 279	3 209	990	15 478
1983-84	195.0	2.2	54.8	6.1	255.9	13 214	3 791	1 027	18 032
1984-85	201.7	2.2	58.3	6.4	266.4	13 840	4 731	991	19 562
1985-86	206.2	2.2	60.5	6.5	273.2	12 811	3 969	752	17 532
1986-87	207.0	2.2	61.6	6.3	274.9	9 206	2 667	526	12 399
1987-88	209.4	2.2	62.7	6.0	278.1	8 597	2 106	279	10 982
1988-89	213.5	2.1	64.7	6.2	284.4	10 009	2 906	369	13 284
1989-90	220.4	2.1	67.6	6.4	294.3	10 718	3 225	473	14 416

(a) Includes State Government and Commonwealth Government-owned vehicles but excludes those belonging to the Defence Services.

(b) Trucks only.

(c) From 1929-30 includes trucks, utilities, panel vans and omnibuses.

(Chapter 19)

Motor Vehicles on Register and Traffic Accidents, Tasmania

Year	Motor vehicles on the register at end of year (a)		Traffic accidents involving casualties					
	Number ('000)	Persons per vehicle registered	Accidents		Persons killed		Persons injured	
			Number	Per 10 000 vehicles registered (b)	Number	Per 10 000 vehicles registered (b)	Number	Per 10 000 vehicles registered (b)
1959-60	93.2	3.7	743	82	79	8.7	1 004	111
1969-70	154.3	2.5	1 413	93	122	8.0	2 268	150
1970-71	161.3	2.4	1 396	89	124	7.9	2 031	129
1971-72	167.8	2.3	1 371	83	118	7.2	1 984	120
1972-73	174.5	2.3	1 423	83	83	4.8	2 052	119
1973-74	182.6	2.2	1 454	81	126	7.0	2 046	114
1974-75	194.3	2.1	1 466	77	120	6.3	2 061	108
1975-76	202.8	2.0	1 502	74	107	5.3	2 160	107
1976-77	209.4	2.0	1 606	77	103	4.9	2 314	110
1977-78	218.1	1.9	1 674	78	118	5.5	2 402	112
1978-79	226.6	1.9	1 537	69	98	4.4	2 113	95
1979-80	229.5	1.8	1 510	66	77	3.4	2 140	94
1980-81	237.4	1.8	1 634	70	120	5.1	2 186	94
1981-82	242.1	1.8	1 532	64	114	4.8	2 209	92
1982-83 (c)	249.3	1.7	1 114	46	73	3.0	1 524	62
1983-84	255.9	1.7	1 333	52	76	3.0	1 856	73
1984-85	266.4	1.7	1 435	54	85	3.2	1 952	73
1985-86	273.2	1.6	1 514	55	76	2.8	2 152	79
1986-87	274.9	1.6	1 385	50	90	3.3	1 906	69
1987-88	278.1	1.6	1 453	53	75	2.7	1 958	71
1988-89	284.4	1.6	1 522	54	90	3.2	2 032	71
1989-90	294.3	1.6	1 412	48	66	2.2	1 910	65

(a) Includes cars, commercial vehicles, motor cycles and Commonwealth-owned vehicles other than Defence Services vehicles.

(Chapter 19)

Metropolitan Transport Trust Passenger Services, Tasmania (a)

Year	Route kilometres open for traffic	Hobart and Launceston services				Revenue (b)	Expenditure (c)
		Hobart		Launceston			
		Vehicle kilometres	Passenger journeys	Vehicle kilometres	Passenger journeys		
		daily average	daily average	daily average	daily average		
1955-56	121	10 602	50 028	4 060	18 006	1 304	1 690
1965-66	243	17 239	43 383	4 760	14 767	1 964	2 749
1966-67	248	17 323	42 967	4 843	14 728	2 124	3 008
1967-68	259	17 408	41 803	4 947	13 953	2 158	3 122
1968-69	286	17 745	40 675	4 730	13 365	2 270	3 250
1969-70	290	17 886	39 932	4 801	13 018	2 332	3 358
1970-71	290	18 055	40 058	4 633	12 521	2 321	3 741
1971-72	291	17 703	37 584	4 585	11 708	2 639	3 949
1972-73	308	17 106	36 572	4 530	11 397	2 659	4 333
1973-74	314	17 585	38 027	4 604	11 988	2 751	5 283
1974-75	364	19 031	40 791	4 650	12 055	2 916	8 299
1975-76	357	19 850	40 646	4 704	11 969	3 000	8 084
1976-77	358	20 791	39 507	4 219	11 283	2 862	8 945
1977-78	365	21 405	39 314	4 269	10 767	3 547	10 151
1978-79	366	20 685	34 870	4 148	9 552	4 186	10 672
1979-80	368	20 333	34 384	4 345	9 515	4 183	11 300
1980-81	344	21 551	34 161	4 306	9 368	4 896	13 458
1981-82 (d)	352	20 922	28 803	4 175	7 836	5 625	14 524
1982-83	357	20 871	29 107	4 015	7 762	5 710	15 453
1983-84	378	20 630	r 28 121	4 002	r 7 381	5 641	16 715
1984-85	381	20 991	r 27 997	3 999	r 7 414	5 646	17 573
1985-86	384	21 261	r 26 721	4 069	r 7 508	6 664	19 880
1986-87	387	21 221	r 25 921	4 106	r 7 025	7 806	21 387
1987-88	387	21 404	25 562	4 138	6 945	8 372	22 647
1988-89 (e)	401	21 255	26 512	3 882	6 436	9 023	24 575
1989-90	407	20 438	25 868	3 887	6 254	9 486	25 747

(a) Includes tram, omnibus and trolley-bus services originally under municipal control but taken over by Metropolitan Transport Trust on 1.7.55. Trams ceased operating: Hobart 21.10.60; Launceston 13.12.52. (b) Prior to 1955-56 includes government grants: see note (a) above. (c) Includes interest, redemption and depreciation. (d) The method used for calculating passengers changed after a change in ticketing procedures revealed inaccuracies. (e) Since the introduction of Metrofare in February 1988 passenger transfers at Springfield Interchange have been included as passenger trips.

(Chapter 21)

Consumer Price Index Numbers, Hobart (a)

Year	Food	Clothing	Housing	Household equipment and operation	Transport- ation	Tobacco and alcohol	Health and personal care	Recreation and education	All groups	
									Index no.	Increase per cent (b)
1949-50	13.2	17.6	12.1	n.a.	n.a.	n.a.	n.a.	n.a.	14.8	6.5-
1959-60	26.5	28.8	24.6	n.a.	n.a.	n.a.	n.a.	n.a.	27.6	1.8
1960-61	29.5	29.2	26.0	n.a.	n.a.	n.a.	n.a.	n.a.	29.1	5.4
1961-62	28.8	29.6	27.1	n.a.	n.a.	n.a.	n.a.	n.a.	29.3	0.7
1962-63	28.4	29.8	28.0	n.a.	n.a.	n.a.	n.a.	n.a.	29.3	-
1963-64	28.4	29.9	28.8	n.a.	n.a.	n.a.	n.a.	n.a.	29.6	1.0
1964-65	30.0	30.3	30.0	n.a.	n.a.	n.a.	n.a.	n.a.	30.5	3.0
1965-66	31.6	30.7	30.8	n.a.	n.a.	n.a.	n.a.	n.a.	31.6	3.6
1966-67	32.0	31.3	31.7	34.9	31.1	32.2	n.a.	n.a.	32.3	2.2
1967-68	34.1	32.0	32.9	36.2	32.4	32.9	n.a.	n.a.	33.7	4.3
1968-69	33.6	32.7	34.4	37.0	33.6	33.8	n.a.	n.a.	34.2	1.5
1969-70	34.0	33.8	35.7	37.5	34.6	34.5	29.1	n.a.	35.0	2.3
1970-71	35.0	35.0	37.2	38.7	36.1	37.2	29.3	n.a.	36.3	3.7
1971-72	36.1	37.1	39.4	41.7	39.4	40.1	34.0	n.a.	38.7	6.6
1972-73	38.3	39.3	41.8	43.2	41.1	43.4	35.7	n.a.	40.9	5.7
1973-74	45.2	44.5	46.6	46.4	43.4	49.2	40.0	n.a.	46.0	12.5
1974-75	50.7	53.7	57.4	54.6	51.4	54.5	49.4	n.a.	53.8	17.0
1975-76	56.7	62.8	68.6	64.2	61.2	66.4	39.3	n.a.	61.3	13.9
1976-77	64.4	72.7	77.7	70.5	68.6	71.5	71.0	n.a.	70.2	14.5
1977-78	71.2	80.4	83.9	76.8	75.1	74.7	85.8	n.a.	77.1	9.8
1978-79	80.3	86.7	88.2	82.4	79.7	86.4	82.9	n.a.	83.1	7.8
1979-80	91.6	93.1	93.1	89.8	90.6	93.1	90.7	n.a.	91.6	10.2
1980-81	100.0	100.0	100.0	100.0	100.0	100.0	100.0	n.a.	100.0	9.2
1981-82	108.7	106.4	107.4	110.0	112.8	109.1	120.5	n.a.	110.0	10.0
1982-83	118.6	112.8	116.3	121.7	126.8	124.0	143.0	109.4	121.8	10.7
1983-84	128.2	119.5	123.9	132.8	136.7	137.8	131.5	117.3	129.9	6.7
1984-85	136.1	127.6	135.2	139.5	143.9	151.3	110.7	122.3	136.1	4.8
1985-86	145.8	138.3	149.0	148.8	157.8	167.0	117.9	135.2	147.9	8.7
1986-87	158.9	151.9	157.8	160.9	176.9	188.6	138.4	146.3	162.5	9.9
1987-88	169.7	162.0	164.0	171.9	190.3	210.7	154.3	157.4	174.4	7.4
1988-89	181.5	173.3	176.7	182.0	199.0	226.7	164.6	165.9	185.3	6.3
1989-90	192.0	182.8	200.3	191.3	209.8	242.7	180.0	176.9	198.3	7.0

(a) Base of each index is year 1980-81 = 100.0 except 'Recreation and education' which is March quarter 1981-82.

(b) Over previous year.

(Chapter 21) Value of Retail Sales by Commodity Groups, 1952-53 to 1985-86, Tasmania
(\$ million)

Year	Groceries	Fresh meat	Other food (a)	Beer, wine, spirits (b)	Clothing, drapery, footwear	Domestic hardware (c)	Electrical goods (d)	Furniture, floor coverings	Other goods (e)	Total (excl. motor vehicles, etc.)
1952-53 (f)	17.3	9.1	11.9	10.7	25.7	3.1	4.6	4.9	16.3	103.6
1956-57 (f)	23.4	11.1	15.1	14.8	30.4	3.3	6.3	6.4	20.3	131.1
1961-62 (f)	28.6	13.9	20.0	17.0	35.3	4.1	10.7	7.2	29.3	166.1
1965-66	35.2	17.8	22.7	20.3	41.6	4.5	11.2	8.7	36.3	198.3
1966-67	36.5	19.4	24.2	23.3	45.5	5.1	11.7	10.1	39.2	215.0
1967-68	37.3	19.9	26.1	25.0	48.9	5.5	12.4	11.2	41.6	227.9
1968-69 (f)	48.7	20.7	23.1	30.9	49.5	8.8	13.4	12.6	49.9	257.6
1969-70	41.7	21.0	30.7	28.7	62.2	6.1	13.3	12.9	49.4	256.0
1970-71	45.2	21.3	32.6	30.7	55.6	6.7	13.6	13.5	52.9	272.1
1971-72	50.0	22.2	33.9	32.4	59.7	7.5	15.4	14.4	55.8	291.3
1972-73	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	319.5
1973-74 (f)	63.8	26.2	35.8	47.8	76.1	14.4	24.5	21.4	64.5	374.5
1974-75	76.7	31.3	47.2	61.7	100.3	17.1	36.1	28.9	86.1	485.4
1975-76	87.3	31.2	49.7	68.8	101.6	22.1	48.3	31.7	91.6	532.3
1976-77	110.4	35.7	58.0	77.5	117.3	24.5	56.4	34.6	103.6	618.0
1977-78	120.8	37.6	64.0	91.6	133.1	29.0	53.1	37.8	118.4	685.4
1978-79	132.0	48.2	72.8	100.5	141.2	29.5	53.2	38.8	134.3	750.5
1979-80 (f)	168.0	55.9	71.9	105.6	151.0	28.2	53.0	39.0	144.3	816.9
1980-81	171.5	55.2	99.0	114.0	154.6	35.5	54.1	39.9	161.9	885.7
1981-82	195.1	60.3	106.8	122.3	166.6	38.8	57.0	42.3	178.9	968.1
1982-83	234.8	63.6	91.4	119.5	186.6	39.5	69.0	41.5	184.4	1 030.5
1983-84	276.1	73.4	99.7	129.7	198.9	46.2	78.6	49.7	202.3	1 154.6
1984-85	324.4	76.5	108.6	153.5	221.8	44.8	78.2	58.4	229.5	1 296.0
1985-86	361.3	79.9	126.1	171.5	216.0	51.6	86.8	56.6	249.0	1 399.0

(a) Includes fresh fruit and vegetables, confectionery, soft drinks, ice-cream, cakes, pastry, cooked provisions, fish, etc., but excludes some delivered milk and bread. (b) Excludes sales from licensed clubs up to 1982-83. (c) Excludes basic building materials (e.g. timber, roofing tiles, etc.), builders' hardware and supplies. (d) Includes radios, televisions and accessories, musical instruments, domestic refrigerators, etc. (e) Includes tobacco, cigarettes, newspapers, books, stationery, chemists' goods, jewellery, etc. (f) Census figures.

(Chapter 20) Value of Trade by Sea and Air and Vessels Entered and Cleared, Tasmanian Ports

Year	Imports				Exports				Vessels entered Tasmanian ports	
	Overseas	Interstate		Total (a)	Overseas (b)	Interstate (b)		Total	Overseas and inter- state (c)	
	By sea and air	By sea (a)	By air		By sea and air	By sea	By air		no.	'000 net tons
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000		
1830	n.a.	n.a.	n.a.	510	n.a.	n.a.	n.a.	292	101	27
1840	n.a.	n.a.	n.a.	1 976	n.a.	n.a.	n.a.	1 734	492	85
1850	n.a.	n.a.	n.a.	1 318	n.a.	n.a.	n.a.	1 288	674	104
1860	1 686	450	n.a.	2 136	1 544	380	n.a.	1 924	806	116
1870	698	888	n.a.	1 586	562	736	n.a.	1 298	613	106
1880	738	2 000	n.a.	2 738	1 568	1 456	n.a.	3 024	654	205
1890	1 594	2 202	n.a.	3 796	792	2 182	n.a.	2 974	746	476
1900	1 402	2 746	n.a.	4 148	3 078	2 144	n.a.	5 222	741	619
1910	1 662	(d)	n.a.	n.a.	1 040	(d)	n.a.	n.a.	979	1 211
1919-20	1 626	(d)	n.a.	n.a.	4 022	(d)	n.a.	n.a.	841	632
1929-30	3 668	16 028	n.a.	19 696	4 978	13 198	n.a.	18 176	1 076	1 390
1939-40	3 188	21 780	n.a.	24 968	4 852	20 954	n.a.	25 806	1 243	1 512
1949-50	18 704	51 218 (e)	10 670	80 592	29 936	42 672	(e) 3 996	76 604	862	1 183
1950-51	25 058	60 636	18 326	104 020	48 514	53 740	6 392	108 646	905	1 279
1951-52	41 422	76 024	20 474	137 920	37 024	71 684	6 018	114 726	902	1 323
1952-53	26 632	76 658	19 936	123 226	43 696	72 804	11 568	128 068	1 012	1 480
1953-54	26 098	87 438	22 164	135 700	35 466	81 488	13 580	130 534	1 060	1 508
1954-55	30 258	89 958	19 148	139 364	37 524	85 376	14 494	137 394	1 081	1 620
1955-56	24 884	99 608	21 166	145 658	40 608	100 630	18 762	160 000	1 030	1 586
1956-57	27 764	105 788	20 020	153 572	45 004	108 654	18 112	171 770	1 161	1 737
1957-58	25 466	113 636	19 122	158 224	44 506	109 652	18 354	172 512	1 241	1 872
1958-59	26 374	121 138	19 718	167 230	43 932	114 424	17 584	175 940	1 257	1 966
1959-60	27 606	130 014	19 210	176 830	47 730	137 530	20 818	206 078	1 308	2 287
1960-61	37 208	141 086	19 356	197 650	42 588	143 036	21 944	207 568	1 354	2 546
1961-62	26 788	141 776	18 000	186 564	57 196	140 794	23 298	221 288	1 533	3 042
1962-63	35 746	150 620	18 158	204 524	66 792	146 454	21 602	234 848	1 614	3 474
1963-64	35 032	167 964	19 840	222 836	73 318	173 590	23 424	275 332	1 508	3 346
1964-65	35 717	170 963	20 819	227 449	87 315	193 371	25 770	306 456	1 472	3 412
1965-66	43 585	192 732	21 123	257 441	92 007	212 785	25 575	330 367	(f) 1 645	(f) 3 887
1966-67	51 376	209 456	20 311	281 143	88 834	224 975	25 680	339 490	1 684	4 085
1967-68	45 024	220 065	20 590	285 679	76 888	233 694	26 941	337 524	1 676	4 102
1968-69	37 509	241 398	21 051	299 958	102 061	265 476	25 825	393 362	1 795	4 645
1969-70	46 998	257 441	20 551	324 989	143 470	286 083	26 287	455 840	1 759	5 574
1970-71	45 719	269 022	19 777	334 519	143 198	277 669	27 103	447 970	1 639	5 338
1971-72	39 749	281 576	20 622	341 947	178 950	302 608	29 374	510 932	1 754	5 937
1972-73	45 045	289 862	21 238	356 145	218 712	320 910	30 626	570 247	1 788	7 239
1973-74	69 277	357 805	24 760	451 843	259 745	404 382	34 566	698 692	1 631	7 225
1974-75	100 616	402 081	26 850	529 547	226 154	379 933	31 699	637 786	1 611	6 820
1975-76	76 262	503 497	27 882	607 641	250 580	441 391	36 280	728 251	1 536	6 733
1976-77	94 622	564 231	30 909	689 762	338 657	485 850	35 160	859 667	1 592	7 258
1977-78	115 778	594 793	39 388	749 960	381 942	594 441	38 206	1 014 589	1 528	6 992
1978-79	140 652	621 548	74 578	836 829	513 286	627 186	39 727	1 180 199	n.a.	n.a.
1979-80	179 780	935 584	53 481	1 168 845	646 827	772 531	32 141	1 451 499	n.a.	n.a.
1980-81	172 456	973 685	60 922	1 207 063	658 013	837 042	45 171	1 540 226	n.a.	n.a.
1981-82	166 032	1 031 330	61 187	1 258 548	647 617	879 421	47 525	1 574 562	n.a.	n.a.
1982-83	179 819	1 084 743	74 552	1 339 113	773 133	904 983	50 833	1 728 949	n.a.	n.a.
1983-84	202 786	1 189 170	69 735	1 461 691	774 308	1 075 077	57 768	1 907 153	n.a.	n.a.
1984-85	389 613	1 414 304	91 352	1 895 269	841 312	1 184 681	67 084	2 093 077	(h) 1 739	(i) 13 734
1985-86	299 398	(g) n.a.	(g) n.a.	(g) n.a.	900 011	1 182 102	74 755	2 156 868	2 087	15 403
1986-87	289 374	n.a.	n.a.	n.a.	1 094 664	1 322 047	84 175	2 500 886	1 980	18 810
1987-88	282 415	n.a.	n.a.	n.a.	1 221 955	1 312 699	93 523	2 628 177	1 858	18 317
1988-89	348 647	n.a.	n.a.	n.a.	1 356 594	n.a.	149 225	n.a.	1 939	18 706
1989-90	352 915	n.a.	n.a.	n.a.	1 474 335	n.a.	112 212	n.a.	n.a.	n.a.
1990-91	299 069	n.a.	n.a.	n.a.	1 344 608	n.a.	95 473	n.a.	n.a.	n.a.

(a) Data for 1979-80 onwards are not directly comparable with data for previous years because of revisions to estimating procedures to take account of inadequate documentation available for interstate imports by sea. (b) Data for 1978-79 onwards are not directly comparable with data for previous years. From 1 July 1978 overseas export figures relate to all goods leaving Tasmania for overseas countries. Prior to that date export figures relate to only goods leaving Tasmania for overseas countries for which documents had been lodged with customs in Tasmania. (c) In this section each vessel is recorded as an entry at the first Tasmanian port of call only; intrastate movements are excluded. (d) Collection discontinued until 1922-23. (e) Not collected before 1949-50. (f) From 1966-67 not comparable with previous years; details are now confined to vessels of over 200 registered net tons engaged solely in trade. (g) Figures no longer available, due to discontinuation of the Interstate Imports Collection. (h) Overseas only. (i) Deadweight tonnes.

(Chapter 20) Overseas and Interstate Exports of Selected Commodities, Tasmania

Year	Sheep skins (with and without wool)		Textile yarn and fabrics		Refined zinc		Ores and concentrates		Timber (dressed and undressed)	
	Quantity	Value	Value	Quantity	Value	Value	Quantity	Value	Quantity	Value
	tonnes	\$'000	\$'000	tonnes	\$'000	\$'000	m2	\$'000		
1945-46	1 890	326	4 599	75 454	4 214	1 668	73 206	1 132		
1950-51	1 014	1 688	9 266	80 836	15 054	5 704	135 668	3 230		
1955-56	1 873	1 356	14 674	100 611	19 888	10 836	140 938	6 570		
1956-57	2 122	1 796	15 766	105 314	19 662	10 700	146 502	6 874		
1957-58	2 138	1 674	16 112	105 541	18 190	8 088	132 242	4 616		
1958-59	2 565	1 288	14 166	116 271	20 054	4 824	153 378	6 844		
1959-60	3 216	2 078	17 524	115 680	22 922	5 952	177 931	8 952		
1960-61	3 071	1 786	19 188	109 664	21 020	6 760	149 657	9 554		
1961-62	3 050	1 892	21 278	133 012	23 680	6 030	134 033	8 588		
1962-63	2 885	1 904	19 842	136 302	23 778	6 338	142 979	9 858		
1963-64	3 359	2 844	21 918	134 201	27 910	9 102	168 480	11 176		
1964-65	2 676	1 953	24 139	141 263	37 327	9 570	189 832	12 811		
1965-66	3 268	2 465	24 077	137 257	38 331	11 302	174 297	12 145		
1966-67	3 402	2 456	24 102	155 273	41 249	12 560	187 474	13 672		
1967-68	2 722	1 369	25 487	120 312	33 106	17 816	183 817	13 492		
1968-69	3 988	2 148	27 563	139 479	34 006	44 018	194 936	15 329		
1969-70	3 236	1 790	27 784	163 847	42 625	63 478	207 242	16 238		
1970-71	3 710	1 684	28 425	142 755	38 163	81 604	200 583	17 201		
1971-72	3 765	1 799	29 938	194 259	55 149	88 777	202 331	17 385		
1972-73	3 618	3 280	31 680	208 349	63 707	87 543	224 828	27 970		
1973-74	2 303	2 926	41 174	190 293	77 143	94 381	270 248	22 556		
1974-75	2 816	2 258	31 454	139 253	74 298	91 240	213 428	30 636		
1975-76	2 943	2 413	41 656	138 243	74 926	92 588	238 440	25 867		
1976-77	2 334	2 765	35 811	162 001	98 318	144 947	313 227	37 083		
1977-78	2 565	3 565	33 285	167 870	87 129	164 014	260 738	38 282		
1978-79	2 504	3 708	43 815	214 242	122 263	202 415	238 145	38 609		
1979-80	2 683	5 417	37 184	185 327	127 264	248 942	291 453	88 238		
1980-81	2 330	3 231	45 047	194 115	135 276	n.p.	265 488	85 254		
1981-82	2 713	3 395	46 095	199 774	162 700	n.p.	255 366	82 206		
1982-83	2 239	2 841	50 073	203 759	164 424	n.p.	267 441	70 331		
1983-84	2 557	3 629	52 620	199 820	201 478	n.p.	234 789	84 958		
1984-85	2 615	4 718	57 917	198 988	233 810	n.p.	228 837	91 223		
1985-86	3 592	8 065	56 835	187 518	197 594	n.p.	224 432	97 470		

Year	Butter (incl. butter oil)		Fresh fruit apples and pears		Meat		Cheese		Wool, greasy (a)	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000	tonnes	\$'000
1945-46	1 293	406	66 820	1 894	186	34	612	112	4 113	1 438
1950-51	1 958	1 173	64 841	6 828	915	302	63	17	5 446	18 688
1955-56	4 988	3 463	92 569	11 498	2 470	1 076	36	23	8 387	11 140
1956-57	6 101	3 452	58 836	7 936	2 074	883	102	73	9 392	16 198
1957-58	5 939	3 420	96 260	14 664	2 996	1 190	101	45	10 731	14 260
1958-59	7 065	4 828	87 781	11 338	5 469	2 415	69	51	11 415	12 106
1959-60	7 864	5 390	80 683	9 490	9 225	3 801	90	64	12 689	15 254
1960-61	5 419	3 298	92 730	11 226	6 896	3 212	60	47	11 068	12 560
1961-62	7 572	3 942	122 417	15 572	7 754	3 250	121	50	12 341	14 206
1962-63	8 597	4 368	108 438	17 508	9 933	4 737	578	269	11 919	15 338
1963-64	8 315	4 372	135 205	19 454	11 018	5 505	895	328	11 378	17 604
1964-65	10 374	5 914	99 410	14 260	12 881	6 645	1 707	761	13 756	16 593
1965-66	8 878	5 214	134 482	20 651	12 749	7 038	2 887	1 493	15 442	20 155
1966-67	9 140	5 259	96 085	11 872	13 727	7 939	3 530	1 642	16 238	20 373
1967-68	8 992	5 107	115 873	14 647	11 345	7 042	4 190	1 854	13 994	15 041
1968-69	9 243	5 129	96 242	13 154	12 910	7 989	1 930	884	15 798	18 592
1969-70	12 611	6 950	109 382	14 905	17 084	11 774	7 267	2 957	16 512	17 821
1970-71	10 664	5 954	96 670	13 474	15 755	10 706	6 259	2 589	17 145	14 350
1971-72	9 829	8 067	74 848	11 092	21 463	14 161	6 816	3 875	20 413	17 180
1972-73	7 437	6 104	84 066	11 566	23 061	20 368	6 656	4 085	17 735	34 579
1973-74	8 269	6 441	92 116	16 458	22 167	22 507	7 730	5 930	16 963	38 319
1974-75	5 012	4 460	57 473	10 261	18 456	12 237	10 386	7 922	15 947	26 640
1975-76	9 720	7 527	47 114	8 756	20 883	17 192	9 026	7 633	17 435	31 232
1976-77	4 363	3 851	24 847	5 732	22 951	20 281	14 552	12 317	16 204	33 685
1977-78	6 248	5 941	42 257	11 092	20 984	21 557	15 222	14 409	16 390	36 503
1978-79	2 561	3 146	40 405	11 794	24 569	37 240	16 516	18 247	16 306	38 756
1979-80	2 871	4 343	45 467	13 826	21 104	41 670	12 188	17 127	13 213	36 630
1980-81	1 510	2 703	39 932	12 467	19 718	35 890	13 302	22 414	16 356	48 422
1981-82	413	867	49 941	19 300	23 688	37 544	13 782	25 827	15 698	48 000
1982-83	1 265	3 725	39 184	22 507	30 392	53 285	11 029	23 410	15 293	48 161
1983-84	2 303	5 384	46 543	21 594	17 432	33 667	10 001	21 235	16 199	55 513
1984-85	2 692	6 552	37 662	23 729	14 164	30 249	11 750	26 227	17 129	66 856
1985-86	2 369	7 827	42 667	33 084	16 356	37 697	11 064	27 202	17 550	69 853

(a) Excludes greasy wool on exported skins.

(Chapter 21)

Average Retail Prices (a) of Selected Items of Foodstuffs: Hobart
(Cents)

Year	Bread (b)	Tea	Sugar	Potatoes	Butter (factory)	Eggs 1 doz	Bacon rashers	Beef rib without bone	Silver- side (corned) (c)	Lamb (leg) (c)	Lamb chops (loin) (c)	Pork (leg)
	680 g	250 g	2 kg	1 kg	500 g	55 g	250 g	1 kg	1 kg	1 kg	1 kg	1 kg
1901	2.3	6.8	9.3	1.4	12.5	10.6	9.3	11.2	9.3	9.0	10.4	11.7
1906	2.4	6.8	9.3	2.2	11.6	12.9	7.9	11.7	9.3	9.7	10.6	11.2
1911	2.6	6.8	9.7	4.7	12.1	12.1	11.9	11.7	9.3	8.6	10.6	11.2
1916	3.2	7.9	12.8	2.1	17.5	14.4	15.5	41.4	16.8	18.1	19.4	21.4
1921	5.4	9.6	22.0	1.9	23.7	18.8	19.4	22.0	18.1	17.6	20.1	24.0
1926	4.6	12.0	16.3	3.7	21.2	16.2	16.4	20.3	15.7	17.6	20.7	28.0
1931	3.4	12.8	16.8	1.9	17.1	12.0	13.0	16.5	13.0	10.8	14.8	17.9
1936	3.7	12.6	17.9	2.4	15.0	14.9	11.1	15.0	14.6	15.4	16.8	18.1
1941	4.6	16.8	17.9	2.4	18.4	15.9	16.0	19.8	16.5	15.9	17.2	23.1
1946	4.6	12.5	17.9	2.2	19.3	20.5	19.3	24.7	20.1	21.2	21.2	26.0
1951	7.8	21.3	21.2	7.6	27.9	40.8	21.8	42.3	38.1	42.1	40.1	67.2
1956	12.4	40.3	36.6	20.5	51.0	54.1	34.6	73.4	55.6	55.6	43.9	106.3
1961	14.5	38.3	42.3	20.2	52.4	57.1	39.5	98.3	85.8	56.2	45.9	119.5
1966	17.0	36.5	41.8	11.3	56.7	63.0	52.7	119.0	94.6	69.2	57.5	140.2
1967	18.0	36.6	46.0	15.5	57.3	65.7	54.9	125.9	100.5	71.4	62.2	145.1
1968	19.1	36.4	49.0	15.2	57.3	62.2	56.3	122.1	138.9	108.5	111.8	149.5
1969	20.1	35.2	49.2	13.4	59.7	68.3	54.6	116.0	135.8	106.3	108.0	147.5
1970	21.3	33.9	49.0	14.1	60.6	67.7	55.6	122.6	138.9	197.6	109.3	147.5
1971	23.5	35.3	48.0	14.5	62.0	64.4	55.2	127.4	144.4	107.4	107.6	148.8
1972	24.9	36.7	48.4	16.3	63.9	67.4	56.9	127.2	149.9	113.3	114.0	151.9
1973	27.0	35.6	47.9	20.5	63.9	75.2	57.6	145.3	175.0	148.8	149.3	171.3
1974	31.2	37.2	48.0	30.4	67.5	58.8	75.6	153.9	201.3	170.9	174.8	220.0
1975	39.2	49.7	52.4	19.6	77.0	93.7	91.9	136.7	180.8	171.5	173.1	256.6
1976	45.1	53.0	56.7	33.7	85.2	109.2	111.6	163.1	201.1	197.1	198.2	302.7
1977	48.8	92.3	63.5	26.6	91.5	123.4	123.0	181.4	218.7	238.9	240.0	326.1
1978	52.0	88.5	68.8	35.8	91.3	128.5	126.5	202.3	247.5	269.8	277.8	344.5
1979	57.0	79.5	85.3	39.5	94.8	138.5	149.5	333.8	379.5	332.8	349.3	415.3
1980	63.8	77.3	95.3	45.0	104.8	147.5	170.5	392.0	441.8	357.5	371.0	464.0
1981	72.0	79.5	102.0	51.5	119.0	161.3	182.5	404.3	447.5	357.5	378.8	490.3
1982	79.5	86.5	115.8	45.3	150.8	169.3	204.8	409.0	441.8	359.5	373.8	540.0
1983	84.3	103.3	128.5	59.8	168.0	178.0	218.0	471.8	499.5	375.5	413.8	536.3
1984	92.0	140.3	134.0	52.8	171.0	184.8	225.8	498.8	528.5	401.3	440.0	550.8
1985	92.8	157.0	139.8	50.3	175.8	194.3	239.8	520.0	538.0	391.5	399.8	575.0
1986	98.0	149.0	150.3	61.0	185.8	201.0	242.8	541.0	552.8	401.0	437.0	593.0
1987	105.5	152.0	163.8	70.0	184.3	195.3	261.0	557.3	577.0	435.0	498.0	601.5
1988	113.5	153.3	173.0	67.3	182.5	211.3	270.0	584.5	619.5	453.8	557.8	628.5
1989	120.0	151.5	206.0	82.5	197.8	228.8	291.5	613.5	633.3	469.8	581.5	666.5
1990	131.3	172.0	237.8	48.5	197.5	238.8	321.0	638.0	653.0	488.5	621.3	689.8

(a) In almost all cases the table units are not necessarily those for which the original price data were obtained. In such cases, prices have been calculated for the table unit. (b) Prior to 1978, bread delivered, 900 g. (c) Prior to 1968 prices shown were for 'Corned beef (brisket), Mutton (leg), Mutton chops (loin)', respectively.

(Chapter 21)

Banking, Tasmania (\$'000)

Trading banks (including Commonwealth Trading Bank) (a)					Savings banks (b)				
Deposits					Deposits				
Advances					Advances				
Debits to customers' accounts (c)					Debits to customers' accounts (c)				
Depositors' balances at end of year					Depositors' balances at end of year				
Year	Deposits	Advances	(c)	of year	Year	Deposits	Advances	(c)	of year
1935-36	n.a.	n.a.	n.a.	13 636	1972-73	159 141	99 192	85 291	288 986
1940-41	n.a.	n.a.	n.a.	17 882	1973-74	207 040	121 077	103 041	328 029
1950-51	53 444	26 636	14 740	54 310	1974-75	229 851	137 189	119 447	382 326
1960-61	76 454	48 010	32 600	94 776	1975-76	277 377	157 951	150 536	430 618
					1976-77	348 613	207 635	179 932	477 134
1961-62	78 952	49 340	32 080	102 460	1977-78	375 773	250 144	193 310	530 457
1962-63	83 178	53 176	35 068	112 856	1978-79	415 180	300 811	220 074	587 755
1963-64	86 210	55 122	37 062	124 770	1979-80	425 910	345 930	256 249	642 129
1964-65	94 604	54 176	41 340	135 736					
1965-66	102 507	55 214	43 105	148 401	1980-81	445 257	394 596	287 683	698 917
1966-67	112 091	60 460	47 103	167 106	1981-82	530 987	432 701	318 201	759 111
1967-68	117 811	69 297	51 222	177 827	1982-83	608 867	441 385	337 704	938 178
1968-69	124 473	72 394	55 896	190 043	1983-84	600 500	448 367	366 752	1 103 459
1969-70	131 501	77 603	61 173	199 790	1984-85	643 165	498 526	458 073	1 213 535
					1985-86	757 601	604 690	506 437	1 256 407
1970-71	133 587	86 976	64 177	217 663	1986-87	783 778	718 654	638 463	1 319 450
1971-72	135 099	88 098	69 970	242 856	1987-88	750 740	813 982	715 992	1 641 564

(a) Average of weekly figures. (b) Commonwealth, trustee and private. Private savings commenced operations in Tasmania as follows: ANZ, September 1961; National, May 1962; CBA, July 1962; CBC, March 1963; and Bank of Adelaide, November 1970. (c) Excludes debits to Government accounts at Hobart City branches.

PUBLICATION OF TASMANIAN STATISTICS

General

The Tasmanian Office of the Australian Bureau of Statistics is located at 175 Collins Street, Hobart. Requests for statistical publications can be made by calling at this address; by phoning the Information Officer on Hobart 20 5800; or by writing to the Deputy Commonwealth Statistician, GPO Box 66A, Hobart 7001. Those requiring particular publications on a regular basis should ask to be placed on the publications mailing list.

Service to the public is not restricted to the distribution of publications. If no publication adequately covers the subject matter of the inquiry, then a special extraction of the data required may be undertaken if they are readily available from the basic records held in the Office. The guide, *Catalogue of Publications* (1101.0), includes descriptions of all publications together with a detailed subject index.

Historical

Before the appointment of the first Government Statistician in Tasmania in 1867, statistics had been published in the official 'Blue Books' compiled by the Colonial Secretary during the period 1822-1855, and in volumes entitled *Statistics of Tasmania* after self-government was granted.

By the *Commonwealth and State Statistical Agreement Act* 1924, the Tasmanian Parliament ratified an agreement for the establishment of an office in Tasmania of the Australian Bureau of Statistics to meet the statistical needs of the State Government. Provision was made for the Deputy Commonwealth Statistician, a Federal Government officer, to hold, at the discretion of the State Government, the title of (State) Government Statistician. The first officer appointed in this way was L.F. Giblin, D.S.O.M.C., who had previously been the State Government Statistician. (It was not until the late 1950s that similar arrangements were made in the other Australian States.)

Statistics from 1804

In the Archives Office of Tasmania, the following series are available:

- (i) *Statistical Account of Van Diemen's Land or Tasmania*, 1804 to 1854 compiled by Hugh M. Hull (Office of the Colonial Secretary).
- (ii) Official 'Blue Books' for the period 1822-1855.
- (iii) *Statistics of Tasmania* - annual publications from 1856 to 1922-23.
- (iv) *Statistics of the State of Tasmania* - annual publications commencing 1923-24 and continuing to 1967-68. (Copies of these volumes are held at the University Library, the State Library in Hobart, the Northern Regional Library in Launceston and the Tasmanian Office of the Australian Bureau of Statistics.) Although the bound volume entitled *Statistics of the State of Tasmania* has been discontinued as from the 1967-68 issue, the component parts are still published as separate bulletins.

Copies of publications listed above, are available for inspection at the Tasmanian Office of the Bureau.

Current Publications of the Tasmanian Office

The Tasmanian Office of the Australian Bureau of Statistics is engaged in a continuous publication program.

The publications can be dissected into annual bulletins and monthly or quarterly press releases. The press releases are issued with a view to making the statistical information available as soon as possible after compilation. Bulletins contain greater detail than press releases, but because of time taken to compile and print, are issued some time after the period to which they refer. The two principal publications issued by the Tasmanian Office of the Bureau are the *Tasmanian Year Book* and *Pocket Year Book of Tasmania*.

Tasmanian Statistics in Central Office Publications

Although publications of the Tasmanian Office of the Australian Bureau of Statistics make available statistics on many aspects of the State, there are some fields in which additional or more frequent information is available in publications of the Central Office. Data may also be available on different media including microfiche, magnetic tape, floppy disk and CD-ROM.

How to Obtain Central Office Publications

Central Office priced publications may be bought direct from the *Australian Bureau of Statistics, PO Box 10, Belconnen, ACT 2616* or from the Tasmanian Office of the Australian Bureau of Statistics. A standing order may also be placed with the Bureau on a pre-paid basis.

Subject Matter of Central Office Publications

The fields of statistical inquiry covered in Central Office publications are very wide (more than 270 different titles are issued annually) and the best way to obtain a guide to the material available is to write to: *The Australian Statistician, PO Box 10, Belconnen, ACT 2616* and ask for the booklet *Catalogue of Publications* (1101.0). Copies of this guide are also available at the Tasmanian Office of the Bureau. This comprehensive guide lists the publications of the Central Office and of the State offices; in addition, it contains a subject index to information covered by Central Office publications. Readers with interest in a particular field are invited to call at, or write to, the Tasmanian Office which is in a position to give advice on what publications are available.

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